

This is Ed Arnold from Atlanta, Georgia. Address here is 421 Clifton Road, Atlanta 30307. My phone number here is (404) 371-1849. Just as a citizen, I'm concerned that this MOX idea has progressed. Contrast, putting these things in the ground as they are with processing the pits, changing into the MOX fuel, transporting them from place to place as they need to be, getting the extra plutonium out into the commercial sector where there is more security risk, running the risk of higher temperatures and more hazardous waste at the commercial sites and as I understand it, the EIS does not include anything about final placement either for fuel use at the commercial sites or spent fuel disposal after its finished. Contrast that with just putting these things in the ground. I don't understand you. I, I have spoken with people who say Russians say, well we have to do it because the U.S. is doing it. One justification I would thought might be the case was that we wanted to do it so we'd know something the technology so that we could help the Russians if anything went wrong. Well if they are doing it because we are doing it and, I just don't understand you. Good-bye.

1

PD057

PD057-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. The MOX approach was recommended by NAS as an effective means for managing surplus plutonium, and was endorsed by those elements of the international scientific community involved in studies of plutonium disposition. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

The direct-disposition alternative (i.e., direct placement of plutonium into the ground) was eliminated by the *Storage and Disposition PEIS* ROD, mainly because the plutonium would be more retrievable and thus less proliferation resistant. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

I am Larry Sconyers, Mayor of Augusta

Richmond County. I am here today to express

my support for the Savannah River Site and the

new missions under consideration for location

there.

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SRS has a long and outstanding safety,

environmental and production record.

1

SCD51

SCD51-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**We are proud of SRS and the employees there,
both past and present. They have made
significant contributions to our national security
and to the end of the Cold War. They are
outstanding citizens in every respect.**

1

**Plutonium Disposition is an essential program
for our nation's security, today and in the**

2

SCD51

future. SRS stands ready to accept that responsibility and this community stands behind that readiness. Our support for SRS is second to none any where in the DOE complex.

Secretary Pena saw this in his visit here last December and we look forward to Secretary Richardson visiting us in the very near future.

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3

SCD51

SRS has the experience, expertise, and infrastructure required to accomplish the Plutonium Disposition missions. Having been selected as the preferred site for Mixed Oxide Fuel Fabrication and Immobilization based on these existing capabilities, Pit Disassembly and Conversion should also be located here. Consolidating the three missions at SRS will save taxpayers hundreds of millions of dollars.

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4

SCD51

Pantex has never processed plutonium and therefore, does not have the infrastructure, experience or expertise to support any of the missions, especially Pit Disassembly and Conversion. We as taxpayers do not need to pay to build at Pantex what already exists and operates at SRS.

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SCD51

The EIS appears to have been prepared so as to attempt to level the competition field between SRS and Pantex. DOE should correct this document before it is published. Once done in an objective manner, it will verify what those of us who are familiar with SRS and Pantex already know - Pantex does not come close to being equal to SRS.

2

6

SCD51

SCD51-2

General SPD EIS and NEPA Process

Preparation of this SPD EIS involved carefully obtaining comparable data on all of the alternatives, analyzing such data consistently using well-recognized and accepted procedures, and presenting the results in a full and open manner.

Location of Pit Disassembly and Conversion

**work at SRS is not just about jobs. It is the
right thing to do for our nation and its
taxpayers. I encourage DOE to make the
correct decision.**

3

**Thank you for this opportunity to express my
comments and support.**

7

SCD51

SCD51-3

Other

DOE acknowledges the commentor's support for DOE to make the correct decision.

RESOLUTION

**RESOLUTION IN SUPPORT OF PLUTONIUM MISSION AT
THE SAVANNAH RIVER SITE**

WHEREAS, Plutonium handling must be in the hands of professionals with proven experience.

WHEREAS, DOE has already expressed confidence in SRS by assigning the Site the MOX and immobilization missions.

WHEREAS, use for all parts of the plutonium disposition mission, including pit disassembly and conversion, can save taxpayers at least \$1.6 billion based on avoided costs of new structures and equipment that would be required at other DOE sites.

WHEREAS, the Pantex facility in Texas has never processed plutonium; therefore there is no plutonium handling infrastructure and competency at Pantex.

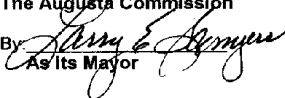
WHEREAS, transportation should not be an issue relative to choosing SRS. The pits are already being transported to Pantex in Texas.

WHEREAS, the DOE plutonium missions are safe, especially when performed by people with demonstrated competency such as the people at SRS. Tens of thousands of nuclear weapons workers have been involved in U.S. plutonium operations. Comprehensive medical surveillance programs at SRS and other sites have never found a death or even a cancer that could be related to worker exposure to plutonium.


NOW, BE IT RESOLVED, that the Augusta Commission strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River site as its local facility in plutonium management and disposition.

Duly adopted by The Augusta Commission this 4th day of August, 1998

The Augusta Commission

By 
As Its Mayor

ATTEST:


As Its Clerk

SCD51

1

AUGUSTA-RICHMOND COUNTY LEGISLATIVE DELEGATION
HONORABLE BEN ALLEN ET AL.
PAGE 1 OF 1

RESOLUTION

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the Department of Energy for the next 20 to 30 years; and

WHEREAS, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and


WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities . . . with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS, the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Savannah River Regional Diversification Initiative (SRRDI) strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 11th day of March, 1997, by the Augusta-Richmond County Legislative Delegation of the State of Georgia.


 Representative Ben Allen


 Representative George R. R. Allen

SCD84

SCD84-1

Alternatives

DOE acknowledges the commentors' support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AUGUSTA-RICHMOND COUNTY LEGISLATIVE DELEGATION
HONORABLE JACK CONNELL
PAGE 1 OF 1



JACK CONNELL
Speaker Pro-Tem

House of Representatives

Atlanta, Georgia 30334

P. O. Box 308
Augusta, Georgia 30901
Telephone: 706/23-2712

Room 940
State Capitol
Atlanta, Georgia 30334
Telephone: 404/656-5972

June 19, 1997

Mr. Howard R. Canter, Director
U. S. Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington, D.C. 20026-3786

Dear Mr. Canter:

Due to circumstances that prevent me from attending the U. S. Department of Energy's workshop today, this letter is written to voice my support for the Savannah River Site as the selection for the plutonium disposition options under consideration.

Clearly, the SRS should be the choice for the plutonium mission based on what is best for the citizens of our country. While it is certainly important to our local area, my utmost concern is for this selection to be based on cost-effectiveness, safety for the workers, public environmental concerns, and for the betterment of our national security . . . and the SRS unquestionably meets all of these requirements.

SRS has the only large-scale plutonium processing facility in the country. From strictly a business standpoint, why would you spend the dollars to duplicate their capabilities at another location and additional dollars to transport components to the SRS? It is only logical to keep all the plutonium handling operations at one site. Further, the SRS has maintained a good safety record for more than 40 years with the technical and operating staff experienced in plutonium handling.

I hope the DOE will consider all of the advantages that the SRS has to offer.

Sincerely,

Jack Connell, Speaker Pro Tem
Chairman, Augusta-Richmond County Legislative Delegation

JC/dl


SCD81-1

Alternatives

DOE acknowledges the commentator's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

SCD81

| | |
|---|---|
|  | Question/ Information Request Card |
| Name: <u>Sam Booker</u> | |
| Address: <u>4387 Roswell Dr</u> <u>Augusta, Ga 30907</u> | |
| Phone: <u>706 863-2324</u> | Fax: <u>706 863-2324</u> |
| E-mail: <u>sbooker@AOL.com</u> | |
| Question/ Request: <u>while I am very pleased</u> <u>with new missions coming to SRS, I am</u> <u>concerned that there will be a rush to</u> <u>develop on land outside the industrial zone</u> | |
| <small>For further information contact: U.S. Department of Energy, Office of Flexible Materials Disposition, MD-4 Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585 1-800-820-5156</small> | |

SCD88

SCD88-1

Ecological Resources

DOE acknowledges the commentor's concern regarding natural wildlife habitat and recognizes the importance of protecting the ecological resources at SRS. To accommodate the proposed surplus plutonium disposition facilities, the fence in F-Area would need to be moved to incorporate more land. However, this parcel of land has been previously disturbed by past actions. Prior to construction, the proposed site would be surveyed for nests of migratory birds and consultations with USFWS and the South Carolina Department of Natural Resources would ensure that any appropriate mitigation actions would be implemented as needed to protect sensitive habitat or species.

BOOKER, SAM
PAGE 2 OF 2

on land in the Buffer Zone that to date
is still ecologically important and never
been paved over or had roads built
over.

Please make every effort to not
sacrifice our Natural Wildlife Habitat in
your effort to bring new jobs to SRS.
I hope you share my belief
that both can be done without harm.

Sam Booker

SCD88

This is Nancy Buss calling from Atlanta, Georgia. I just wanted to say that I think that the MOX fuel facilities do not sound like a good idea. It seems to me that we should be getting rid of all nuclear fuel plants because so far we have not found any good way to contain the waste products. I think the Department of Energy would do much better to put its resources and expertise behind solar power and things, wind power and things like that that can be renewed and are passive power sources, as far as contaminating the environment. Thank you very much.

1

PD047

PD047-1**MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach. By fabricating MOX fuel from surplus plutonium, the United States is not encouraging domestic or foreign commercial use of plutonium as an energy source. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, the facility would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the facility would be shut down at the completion of the surplus plutonium disposition program.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

Through various programs in addition to the surplus plutonium disposition program, DOE is engaged in innovative technology development for energy production.

This is Emily Calhoun. I am a resident of Banks County, Georgia. I am calling to protest the proposal to allow utility companies to generate electricity from plutonium. That stuff is too hot to handle. It is highly radioactive. It is very dangerous. It should be immobilized. It should certainly not be used as fuel. We should develop renewable energy sources. Thank you.

1

PD053

PD053-1

Alternatives

DOE acknowledges the commentor's support for the immobilization approach. However, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Through various programs in addition to the surplus plutonium disposition program, DOE is engaged in innovative technology development for energy production.

CAMPAIGN FOR A PROSPEROUS GEORGIA

RITA KILPATRICK

PAGE 1 OF 3



CAMPAIGN
FOR A
PROSPEROUS
GEORGIA

COMMENTS REGARDING THE SURPLUS PLUTONIUM DISPOSITION
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Submitted on behalf of Campaign for a Prosperous Georgia
September 16, 1998

Campaign for a Prosperous Georgia is a ratepayer-based organization working state-wide in Georgia on electricity issues to strengthen the economy and to protect the environment now and for future generations.

In making comments on the Draft Environmental Impact Statement, we bring attention to several issues which our organization urges the Department of Energy to address before proceeding any further with the mixed-oxide fuel experiment.

1) Consider the impacts of mixed-oxide fuel on individual commercial reactors. Until this is done, and it needs to be done up-front during the Environmental Impact Statement process, the EIS is not completed. 1

2) It is our understanding that none of the reactors in the country, including the Southeast region, were designed to accommodate mixed-oxide fuel. We also understand that generation of electricity with mixed-oxide fuel is an untried experiment and that nowhere in the world has mixed-oxide fuel using plutonium from warheads been used. In Europe, process plutonium that was never put in a warhead was used. We also understand that the use of mixed-oxide fuel from warhead plutonium increases the wear and tear on a reactor. This needs to be addressed as it relates to decommissioning plans, decommissioning costs, and public safety. 2

3) We understand that utilities or utility consortiums are looking to receive a "free" plutonium subsidy from the federal government for mixed oxide fuel generation. Issues such as "Whose money is this?" and "Will utilities be paid twice for the same kilowatt-hour—once by ratepayers and once by the government or taxpayers?" need to be addressed. At the public meeting in Augusta which our organization representatives attended, the Department of Energy response to the subsidy question was that utilities will not pass any costs of using mixed-oxide fuel onto ratepayers. With all due respect, we have heard that kind of statement before. Unfortunately, lack of sound cost estimates associated with the construction of nuclear plant Vogtle at the Savannah River Site resulted in the worst and most serious rate hike Georgians have ever experienced. 3

4) The Department of Energy needs to address the ways in which a mixed-oxide fuel subsidy unfairly advantage certain companies in a competitive utility market. 4

1081 AUSTIN AVENUE NE • ATLANTA, GEORGIA 30307 • 404 659 5675 • FAX 404 659-5676

FOR INFORMATION ONLY: COMMENTS DUE BY OCTOBER 15, 1998

FD315

FD315-1

MOX Approach

DOE acknowledges the commentor's concern regarding the MOX approach. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

FD315-2

MOX Approach

Although no domestic, commercial reactors use MOX fuel, several are in fact designed to do so, and others can easily and safely accommodate a partial MOX core. Electricity is generated from MOX fuel in Europe, and a demonstration of the process was conducted in the United States in the early 1970s. While plutonium from warheads may never have been used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons-grade plutonium, and thus does not present a situation different from the MOX fuel experience to date. Reactor-grade and weapons-grade plutonium are chemically indistinguishable. The difference is isotopic: there is less plutonium 239 (and therefore more plutonium 240) in reactor-grade plutonium than in plutonium that was produced for use in weapons. However, since plutonium 240 is not fissile, it is the amount of plutonium 239 that dominates criticality concerns. MOX fuel, regardless of the origin of the plutonium, has a higher flux than LEU fuel, and thus can cause more wear on the reactor than LEU fuel. However, this is taken into account when developing fuel management strategy. Section 4.28 was revised to include reactor-specific analyses, including accident analyses, for the reactors proposed to irradiate MOX fuel.

Use of MOX fuel should not increase the cost of reactor operation or decommissioning. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

FD315-3

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

The MOX approach is not intended to affect the viability of nuclear power generation at any particular reactor. DCS does not have to continue to use MOX fuel if it determines that it is uneconomical to operate the reactor. This ensures that DOE is not driving the continuation of reactor operations solely for the surplus plutonium disposition program. Furthermore, DCS would

CAMPAIGN FOR A PROSPEROUS GEORGIA
RITA KILPATRICK
PAGE 3 OF 3

Campaign for a Prosperous Georgia (cont.)

The Department of Energy's proposal to unfairly advantage nuclear energy suppliers through a subsidy is in sharp contradiction to the significant ongoing efforts nationwide to create a "level playing field" for power suppliers in an increasingly competitive utility market.

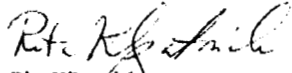
5) Without mixed-oxide fuel subsidies, is the Department of Energy prepared to buy out any mixed-oxide fuel reactors to keep them operating and is the Department of Energy prepared to address taxpayer opposition to government buyout?

6) The issue of who is going to buy electricity generated from mixed-oxide fuel must be addressed. Polls around the country show consistently that when given a preference, the majority of people want to invest in renewable energy and conservation, not fossil fuels and more clearly, not nuclear power.

In conclusion, we urge the Department of Energy to consider more wisely and more strategically a decision of whether to pursue the mixed-oxide fuel experiment at all. In the event the Department requires any background papers which support our above stated concerns, please do not hesitate to contact us at the address of phone number on the first page of these comments.

Further, we request to be informed of the Environmental Impact Statement process for individual commercial reactors.

Respectfully submitted on behalf
of Campaign for a Prosperous Georgia,



Rita Kilpatrick
Executive Director

FD315

only be reimbursed for costs solely and exclusively related to MOX fuel irradiation. This would ensure that the taxpayers were not underwriting otherwise uneconomical electricity-generating assets.

FD315-4

MOX Approach

This comment is addressed in response FD315-3.

FD315-5

General SPD EIS and NEPA Process

As discussed in Section 2.1.3, if DOE decides to implement alternatives that require MOX fuel fabrication, then the MOX fuel would be irradiated in the Catawba, McGuire, and North Anna reactors. As described in Section 2.4.3.2, MOX fuel is produced with a process similar to that for the production of traditional LEU fuel for commercial power reactors. The use of MOX fuel is intended to be revenue neutral for participating utilities and transparent to their customers. The use of MOX fuel would not be expected to alter the customer base for participating utilities.

MOX fuel would displace traditional LEU fuel in participating reactors. However, the purpose of the alternatives that include MOX fuel would not be to compete with traditional LEU fuel or renewable energy sources. DOE acknowledges the commentor's opposition to the production and use of plutonium. As discussed in Section 1.2, the goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner.

CITIZENS FOR ENVIRONMENTAL JUSTICE
MILDRED McCLAIN
PAGE 1 OF 1

Rev. Vernell Curry
Convener



Dr. Mildred McClain
Executive Director

September 14, 1998

Mr. G. Bert Stevenson
NEPA Compliance Officer
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Dear Mr. Stevenson,

This letter is requesting that the Department of Energy not to make a decision regarding the Surplus Plutonium Disposition Draft Environmental Impact Statement without the input of the environmental justice communities. We are aware that the Savannah River Site Citizen's Advisory Board and DOE sponsored their own workshop with over 1,100 community representatives attending. Unfortunately, those who attended the workshop did not represent the People of Color and disenfranchised communities.

We believe that the, September 16, 1998 comment period ending date for the Surplus Plutonium Disposition Draft Environmental Impact Statement is too soon. This is a formal request for the comment period to be extended beyond its cut off date so that the environmental justice communities, the communities that will directly be affected by this EIS, will be able to make a formal reply.

Working for environmental justice everywhere,

Dr. Mildred McClain
Executive Director

MM/dle

1115 HABERSHAM STREET • SAVANNAH, GEORGIA 31401 • PHONE: (912) 233-0907 • FAX: (912) 233-5105

FD316

FD316-1

Environmental Justice

A public hearing on the SPD Draft EIS was held in North Augusta, South Carolina, on August 13, 1998. A special outreach effort was made to make "People of Color and disenfranchised communities" aware of the hearing. This was done by advertising in print media and on radio stations recommended by organizations that represent these communities. Further, special transportation support was offered to ensure that members of these communities were able to attend the hearing, and the hearing was held after normal working hours so that they would not have to miss work. Copies of the SPD Draft EIS were mailed to members of these communities, as well as organizations that represent them, in advance of the hearing. In addition to the hearing, DOE provided several other means to solicit comments: mail, a toll-free telephone and fax line, and the MD Web site.

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to. As shown in Chapter 4 of Volume I, implementation of the alternatives for disposition of surplus plutonium at SRS would likely pose no significant risk to public health regardless of the minority and economic status of individuals in the population. Chapter 4 also includes Environmental Justice sections for all alternatives on the potential impacts on minority or low-income populations. Appendix M describes the process that was used to determine these impacts.

CITIZENS FOR ENVIRONMENTAL JUSTICE
MILDRED McCLAIN
PAGE 1 OF 10

Rev. Vernell Cutter
 Convenor



Dr. Mildred McClain
 Executive Director

October 5, 1998

Mr. G. Bert Stevenson
 NEPA Compliance Officer
 Office of Fissile Materials Disposition
 U.S. Department of Energy
 P.O. Box 23786
 Washington, DC 20026-3786

Re: Surplus Plutonium Disposition Draft Environmental Impact Statement DOE/EIS-0283-D

Dear Mr. Stevenson,

Citizens For Environmental Justice (CFEJ) conducted eight workshops on the Department of Energy (DOE) proposed activity associated with the disposition of surplus plutonium, for communities traditionally not involved in the decision-making process related to federal facilities like Savannah River Site (SRS). These workshops held in Augusta, Waynesboro and Savannah in Georgia, and Barnwell and Ridgeland in South Carolina focussed on two areas 1) providing information and 2) gathering input from communities.

The first series of workshops were conducted in August 1997 and the follow-up workshops occurred in September 1998. Two hundred fifty-one people have participated in these workshops.

The concerns and recommendations contained in this document represent the input from primarily African American stakeholders, but also include the views of those from the general community. Input was collected from the workshops, interviews and telephone surveys. Interviews and surveys were conducted with stakeholders unable to attend the workshops, but expressed an interest in having their voice represented in our formal response to DOE on the Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS). Twelve interviews and thirty telephone surveys were conducted.

It is important to note that many stakeholders that we dialogued with expressed two main concerns about the EIS 1) not having enough time to respond to such lengthy, complex

1

MD332-1

General SPD EIS and NEPA Process

The public comment period on the SPD Draft EIS was extended from 45 days to 60 days. During this comment period, public hearings were held in areas that would be directly affected by implementation of the alternatives. DOE also accepted comments submitted by various other means: mail, a toll-free telephone and fax line, and the MD Web site. The various channels of communication were open to all interested individuals and organizations, and provided for regional and nationwide comment on the EIS. DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

The *Summary* of this SPD EIS provides an overview of the proposed actions and their potential impacts, and Section 2.18 provides, in layman's terms, a summary of impacts by alternative. As discussed in Chapter 4 of Volume I, implementation of the alternatives would pose no significant risk to human health or the environment downstream from the proposed facilities during normal operations.

Plutonium Recommendations Letter
Page 2 of 5

documents and 2) a lack of a simplified summary that covered all important elements in layman's terms. Downstream communities also expressed concern over the lack of public meetings being held in their communities. The schedule of public meetings did not encourage the participation and involvement of downstream and downwind communities "that generally bear liabilities, but no economic benefits; and to skew the public opinion curve in favor of DOE proposals".

Regional hearings should have been held in Savannah, Georgia and Columbia, South Carolina. The SRS is the preferred candidate site for all three new plutonium processing facilities. Real impacts on the Savannah River from SRS operations and accidents are well documented, with the most notable being the December 1991 tritium leak that quickly reached Savannah, Georgia. How can DOE justify not holding regional hearings in the Savannah River region? Because of the abundant uncertainties and what is at stake, we strongly recognize "a continued need to subject Federal plutonium proposals to the highest and most rigorous levels of public debate possible".

The National Environmental Policy Act (NEPA) requires federal agencies to insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken," and that there is substantial and meaningful involvement in the planning and decision process. By restricting public hearings to a few communities and excluding potentially affected communities DOE is violating the spirit and the letter of NEPA.

Community Concerns

The following is a list of major concerns expressed by community stakeholders:

1. How will the unproven technologies that will be used in the plutonium pit processing facility be tested and validated with public input?
2. What increase in tritium emissions would occur as a result of locating a Plutonium Pit Disassembly and Conversion Facility at SRS and what would the impact be on the air and/or water?
3. How will DOE collect input from nuclear reactor communities on selection of reactor sites for plutonium irradiation facilities (irradiation of MOX fuel)?
4. What will be done to train medical facilities' personnel to handle exposure problems in the event of an accident? Local emergency responders?
5. What security measures will be implemented for communities near SRS to protect against possible terrorists attack?

MD332

MD332-2

Pit Disassembly and Conversion

The technologies to be used in the pit conversion facility are not unproven. They are, for the most part, technologies that have been used for some time by DOE to perform different functions. DOE is now engaged in a demonstration project that will bring these technologies together in one place so that the engineering design and performance parameters of various types of pits can be determined (*Pit Disassembly and Conversion Demonstration EA* [DOE/EA-1207, August 1998]). This would allow DOE to design and operate a pit conversion facility in a safe and efficient manner. Since 1994, the public has been involved in providing input to the decisionmakers on how to proceed with the disposition of surplus plutonium. The pit conversion facility has been part of a large number of environmental reviews and technical, economic, and nonproliferation studies that have been made public and for which DOE has solicited comments.

MD332-3

Air Quality and Noise

Appendix J was revised to include expected radiological release quantities from the proposed surplus plutonium disposition facilities. Appendix J.4.2.1 presents the expected radiological release quantities for the pit conversion facility at SRS. The radiological impacts on air at SRS are discussed in Section 4.4.2.4 for Alternative 3 and in corresponding sections for the other alternatives. Impacts on water at SRS are discussed in Section 4.26.4.2.

MD332-4

MOXRFP

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental

impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

MD332-5

Facility Accidents

As discussed in the Emergency Preparedness sections in Chapter 3 of Volume I, each candidate site has an established emergency management program that would be activated in the event of an accident. Based on the decisions made in the SPD EIS ROD, site emergency management programs would be modified to consider new accidents not in the current program. These modifications would include training medical facilities' personnel and local emergency responders in accordance with DOE Order 151.1, *Comprehensive Emergency Management System*.

MD332-6

DOE Policy

In order to address security against terrorist-related incidents, all intersite shipments of plutonium for the surplus plutonium disposition program would be made using DOE's SST/SGT system. This involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications equipment and additional couriers. Further, the disposition facilities proposed in this SPD EIS are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Site personnel work with local, State, and Federal emergency responders and authorities and have plans and procedures in place to ensure appropriate and prompt coordination of efforts when responding to terrorist threats.

The remainder of this comment is addressed in response MD332-5.

Plutonium Recommendations Letter
Page 3 of 5

| | |
|--|----|
| 6. How will the amount of water used from the Savannah River affect communities and the fishing? How would water be cleaned if there was a leak? How would the concept of "containment with the least amount of water" be assured? | 7 |
| 7. What is the training for transportation personnel and how are they selected? | 8 |
| 8. Are SRS and DOE prepared for negative outcomes? | 9 |
| 9. Is adequate funding available for the implementation of all proposals, which includes outreach and public education? | 10 |
| 10. How will issues associated with transportation be addressed? | |
| <ul style="list-style-type: none"> • Routes • Community/local government and authorities readiness • Informing communities | 11 |
| 11. How will communities monitor the secret transportation routes? How will the communities be alerted? | |
| 12. In what processes will the Savannah River water be used? | 7 |
| Other significant concerns include: | |
| 13. Increased exposure to workers, communities, and environment. | 12 |
| 14. The impact of gallium (corrosion of the metal). | 13 |
| 15. Health risks. | 12 |
| 16. Community plans not in place. | 5 |
| 17. Location of commercial reactors. | 14 |
| 18. Cost of MOX. | 15 |
| 19. Community right-to-know. | 16 |
| 20. Consistency of emergency training. | 5 |
| 21. Training of youth regarding new technology. | 17 |
| 22. Public outreach. | 18 |
| 23. Equity issues. | 1 |
| 24. Only the voice of stakeholders in favor of processes coming to SRS being heard. | 19 |
| 25. Politics driving decisions rather than science and technology. | 20 |
| 26. Criteria for decisions on the pit disassembly facility. | 21 |

MD332

MD332-7

Water Resources

As described in Section 4.26.4.2, the proposed surplus plutonium disposition facilities at SRS would not use water from the Savannah River. Groundwater supplied by the central domestic water supply system would be used. There are redundant systems to prevent a release of contaminants from the proposed facilities. In addition, systems are included that continuously monitor for leaks, allowing early detection and response. If an accident were to release contaminants to the environment, containment and then cleanup would be conducted.

MD332-8

Transportation

DOE's Transportation Safeguards Division is responsible for selecting and training the couriers that operate and escort the SST/SGTs. To be considered for selection as a courier, one must pass a background investigation and receive DOE's highest security clearance, be certified to operate SST/SGTs, possess mental alertness, and meet physical performance requirements. Couriers are initially trained in firearms, tactics, and driving and receive specialized training in physical fitness, communications, radiation, and hazards/detection. The emergency management training for couriers includes the above-mentioned areas and nuclear weapons safety, hazardous materials safety, emergency response training, general firefighting, fire prevention, and explosive hazards.

MD332-9

DOE Policy

DOE acknowledges the commentor's concern regarding the safety of nuclear materials. Accident analyses for SRS are summarized in the Facility Accidents section in Chapter 4 of Volume I for alternatives that include SRS.

SRS has an emergency management program that includes emergency planning, preparedness, and response in the event of an accident. The Emergency Preparedness Facility at SRS provides overall direction and control for onsite responses to emergencies and coordinates with Federal, State, and local agencies and officials on the technical aspects of the emergency.

MD332-10**DOE Policy**

Funding for the surplus plutonium disposition program is appropriated annually by the U.S. Congress. DOE, in its 5-year budget plan, has notified both the Office of Management and Budget and the Congress about the funding level required to implement the surplus plutonium disposition program. This budget plan includes funds for maintaining the public outreach program. Since its creation, MD has supported a vigorous public participation policy and will continue to provide the public with information and maintain communication mechanisms (e.g., mail, a toll-free telephone and fax line, MD Web site) to facilitate public input.

MD332-11**Transportation**

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997).

The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com> or by calling (202) 586-5368.

The commentor's recommendations are consistent with DOE policy. As part of the development of a transportation plan, details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be addressed before any hazardous material was shipped. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, tribal, and local governments for maintaining emergency response programs, there are national emergency response plans under which DOE provides

radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, tribal, and local agencies who might be involved in responding to a radiological incident. DOE anticipates that transportation of plutonium pits, nonpit plutonium, MOX fuel, and HEU (i.e., special nuclear materials) required to disposition surplus plutonium would be done through DOE's SST/SGT system. Appendix L.3.2 provides a description of this system. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

MD332-12

Human Health Risk

All potential impacts are addressed in detail for each alternative in Chapter 4 of Volume I. The SRS Cumulative Impacts section (Section 4.32.4.4) provides information about incremental exposures that may be associated with surplus plutonium disposition activities.

MD332-13

Plutonium Polishing and Aqueous Processing

At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS.

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide in order to eliminate the concern of gallium reacting with the zirconium metal of the MOX fuel rods. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.4.3 was also revised to include the impacts associated with plutonium polishing. While it is true that plutonium polishing would

add to the amount of LLW and TRU waste generated, this amount of waste should be a small fraction of the total amount of these waste types generated at the candidate sites. For example, at SRS, which is the preferred site for the MOX facility, the addition of the plutonium-polishing process would be expected to increase the site's projected generation of LLW and TRU waste by less than 1 percent and 2 percent, respectively. Section 4.32.4 discusses the cumulative impacts of the proposed action at SRS; Sections 4.32.1, 4.32.2, and 4.32.3, the cumulative impacts of the proposed action at Hanford, INEEL, and Pantex, respectively.

The commentor is correct in stating that the use of plutonium would require a license modification, but the modifications needed at the reactors and to handle the spent fuel are expected to be small. Any required reactor modifications would, nevertheless, be conducted in accordance with associated NRC license modification procedures. Section 4.28 was revised to provide reactor-specific analyses.

The purpose of the Comment Response Document is to address comments on environmental impact issues considered in this SPD EIS. The portion of this comment relating to cost has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD332-14

MOX Approach

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the

three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4. The reactors selected as a result of the procurement are Catawba in York, South Carolina; McGuire in Huntersville, North Carolina; and North Anna in Mineral, Virginia.

MD332-15

Cost

This comment is addressed in response MD332-13.

MD332-16

Candidate Sites

The Emergency Planning and Community Right-to-Know Act is listed in Chapter 5. Activities for the surplus plutonium disposition program would be conducted in accordance with all applicable regulations, including community right-to-know laws.

MD332-17

Other

The DOE Education in Science, Technology, Energy, Engineering, and Math (ESTEEM) program offers a wide range of technology-, math-, and science-related education programs for students at various grade levels. Information on ESTEEM, including types of activities offered and points of contact, can be obtained on the Web at <http://www.sandia.gov/ESTEEM/home.htm> or by contacting Samuel Rodriguez, Assistant Director of Science for Communications and Science Education and Chair, DOE's ESTEEM Education Council, by email at: Samuel.Rodriguez@oer.doe.gov or by phone at: (202) 586-7141.

MD332-18

General SPD EIS and NEPA Process

Each of the DOE candidate sites that could be involved in the surplus plutonium disposition program conducts public outreach and education programs in the surrounding communities, and all have a Citizens' Advisory Board.

The remainder of this comment is addressed in response MD332-1.

MD332-19**Environmental Justice**

Per the commentor's recommendation, Section S.7 of the *Summary* was revised to include the results of DOE's analysis of environmental justice concerns. Chapter 4 of Volume I includes Environmental Justice sections, which provide analyses of the potential impacts on minority or low-income populations for each of the alternatives considered. Appendix M describes the process that was used to determine these impacts and gives additional detail on the minority and low-income populations surrounding each of the candidate sites.

MD332-20**DOE Policy**

DOE acknowledges the commentor's concern regarding the drivers in the decisionmaking process for locating the surplus plutonium disposition program at SRS. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD332-21**DOE Policy**

DOE acknowledges the commentor's concern regarding the criteria used in the decisionmaking process for locating the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Plutonium Recommendations Letter
Page 4 of 5

Recommendations

Based on the information presented and the concerns expressed the communities recommend the following:

| | |
|---|----|
| I. Translate information in the EIS into everyday language. | 1 |
| II. Include summary of environmental justice analysis in the Executive Summary. | 19 |
| III. Conduct public meetings in all areas where citizens may be affected/conduct special sessions for youth. | 18 |
| IV. Work with local community based organizations to conduct outreach and public education activities. | |
| V. Provide emergency training for communities near selected site and those on transportation routes (police department, fire department, hospitals, Local Emergency Planning Committees, etc.). | 5 |
| VI. Train the communities in terminology associated with the EIS | |
| ◆ Spent Nuclear Fuel ◆ fission ◆ Pit Disassembly | |
| ◆ plutonium ◆ disposition ◆ conversion | 1 |
| ◆ uranium ◆ basins/tanks ◆ reactors | |
| ◆ chemical separations ◆ MOX ◆ robotics | |
| VII. Test the technology (MOX) | 22 |
| VIII. Create community monitoring panels | 18 |
| IX. Provide a detailed analysis of potential impacts on Savannah, GA and other downstream communities. Each community should have a booklet just on its area. | 23 |
| X. Notify communities/insure emergency plan. | 5 |
| XI. Conduct open public debate on the EIS. | 1 |
| XII. Summarize environmental justice analysis in separate document. | 19 |
| Finally, our most significant recommendation focuses on the issue of gallium. | |
| XIII. Potential actions being evaluated by the DOE for surplus plutonium disposition must address the issue of gallium residue in the conversion of plutonium into fuel in civilian reactors. It is reported by nuclear weapons scientists that not only will gallium interfere with the conversion, but will also cause 1) chemical problems after the fuel is used, and add an additional \$200 million (to remove gallium) to the \$1 billion cost to convert the plutonium into fuel. | 13 |

MD332

MD332-22

MOX Approach

The use of MOX fuel in domestic, commercial reactors is not a new concept. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe, and electricity was generated on a demonstration basis in the United States in the late 1970s. Several U.S. commercial reactors were designed to use MOX fuel, and others can easily and safely accommodate a partial MOX fuel core. The lead assemblies for test irradiation would be inserted into selected reactors as part of the fuel qualification program before full-scale operation was undertaken (see Section 2.17).

MD332-23

General SPD EIS and NEPA Process

This SPD EIS does provide analyses of the potential impacts of implementing each of the alternatives considered. Those analyses show that the disposition of surplus plutonium would have no significant environmental impacts on Savannah, Georgia, or other communities on the Savannah River from normal operations. The *Summary* of the SPD EIS can be used as the suggested booklet.

Symposium

June 10, 1998 Clark County Library, Las Vegas Nevada

GEORGIA CAROLINA COURIER



505 Courthouse Lane
 Augusta, Ga. 30901



July 1998

I. SPOOKED SPOOKED SPOOKED

Top billing for the current spooky story goes to the *Wall Street Journal's* April 28th, 1998 headline, "U.S. Admits Its Jets Harmed Horses." This story reported that:

The U.S. conceded that noise caused by its jet fighters injured racehorses in November, during Japan-U.S. military drills off Cape Erimo in southern Hokkaido. . . . The bureau said the two governments must jointly compensate owners for the damage in line with the bilateral Status-of-Forces Agreement."

The GAO/NSIAD-98-66, Mar. 2 release *Overseas presence: Issues Involved in Reducing the Impact of the U.S. Military Presence in Okinawa* is also spooky. This story reported that:

...A new U.S.-Japanese agreement to reduce the American military presence on Okinawa includes replacing a Marine air station with a new \$4 billion sea-based facility and paid for by Japan. Operating costs for the new facility are estimated at nearly \$200 million a year, much higher than costs for the existing air station. Japan has been asked to pay these costs but has yet to agree. GAO raises the issue of responsibility for cleaning up any environmental contamination at the military facilities being returned to Japan. Also, the construction and operation of the sea-based facility could have harmful consequences for the environment.

Inquiries from our publication regarding these reports directed to Congressman Norwood and copied to Senator Cleland remain unanswered. The U.S. EPA library services reports no information on these reports regarding their

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FD231

FD231-1

DOE Policy

DOE acknowledges the commentor's concern regarding NRC regulation of DOE facilities. Because NRC regulations are beyond the scope of this SPD EIS, this comment has been forwarded to the DOE team addressing external regulation and to the DOE Savannah River Operations office.

PAYMENTS TO UTILITIES NO LONGER GENERATING ELECTRICITY

| | Total Payment |
|--------------------------------|------------------|
| Dairyland Power Coop | 193,000 |
| Public Service Co. of Colorado | 26,000 |
| Sacramento Mun. Util. Dist. | 1,221,000 |
| Yankee Atomic Elec. Co. | 1,025,000 |
| Portland General Electric | <u>5,000,000</u> |
| GRAND TOTAL* | \$7,473,000 |

* Does not reflect utility fee credits. Includes rounding.

FD231

One-Time Fee Outstanding As of 03/31/1998, (\$000)

| State | Utility Name | Option | One Time Fee Owed | One Time Fee Interest Owed | TOTAL |
|--------------|--------------------------|--------|-------------------|----------------------------|-----------|
| Arkansas | Entergy Arkansas | 2 | 49,149 | 76,055 | 125,192 |
| Connecticut | Connecticut Yankee | 2 | 48,726 | 74,810 | 123,537 |
| Connecticut | Northeast Utilities | 2 | 82,108 | 126,061 | 208,169 |
| Illinois | Commonwealth Edison | 2 | 276,792 | 424,964 | 701,756 |
| Maine | Maine Yankee | 2 | 50,394 | 77,959 | 128,353 |
| Michigan | American Electric Power | 2 | 71,964 | 111,328 | 183,291 |
| Michigan | Consumers Power | 2 | 44,286 | 68,511 | 112,797 |
| New Jersey | GPU Nuclear | 1 | 47,417 | 73,354 | 120,771 |
| New York | New York Power Authority | 2 | 58,710 | 90,623 | 149,333 |
| New York | Niagara Mohawk | 2 | 45,499 | 70,587 | 116,086 |
| New York | Rochester Gas & Electric | 2 | 33,134 | 51,258 | 84,392 |
| Ohio | Toledo Edison | 2 | 8,875 | 13,750 | 22,625 |
| Pennsylvania | GPU Nuclear | 1 | 24,150 | 37,560 | 61,710 |
| Vermont | Vermont Yankee | 2 | 39,285 | 60,773 | 100,058 |
| | TOTAL | | 880,489 | 1,357,551 | 2,237,840 |

Option 1: Payments over 40 quarters to be completed prior to first scheduled delivery date
Option 2: Single payment prior to first delivery

GEORGIA-CAROLINA COURIER
PATRICIA C. McCRACKEN
PAGE 4 OF 8

Exhibit B

RYAN LABS, INC.

AUTHORIZED BY:

PORTFOLIO TRADE BLOTTER

| | | | | | | |
|---------|----------------------|-----------------|---------|-----------------|------------|-------------|
| Client: | DEPARTMENT OF ENERGY | Submitted Date: | 4/28/98 | Portfolio Name: | MATCH FUND | Page 1 of 1 |
|---------|----------------------|-----------------|---------|-----------------|------------|-------------|

[illegible]

GENERAL NOTES:

FD231

Exhibit C

\$961.4

Owner means any person who has title to spent nuclear fuel or high-level radioactive waste.
Purchaser means any person, other than a Federal agency, who is licensed by the Nuclear Regulatory Commission to use a utilization or production facility under the authority of sections 103 or 104 of the Atomic Energy Act of 1954 (42 U.S.C. 2133, 2134) or who has title to spent nuclear fuel or high level radioactive waste and who has executed a contract with DOE.

Secretary means the Secretary of Energy of this designee.
Other definitions relating to the subject matter of this rule are set forth in Article II of the contract which is contained in §961.1. Text of the contract, of this part.

§961.4 Deviations

Requests for authority to deviate from this part shall be submitted in writing to the Contracting Officer, who shall forward the request for approval to the Senior Procurement Official, Headquarters. Each request for deviation shall contain the following information:

- A statement of the deviation desired, including identification of the specific paragraph number(s) of the contract;
- A description of the intended effect of the deviation;
- The reason why the deviation is considered necessary or would be in the best interests of the Government;
- The name of the owner or generator seeking the deviation and nuclear power reactor(s) affected;
- A statement whether the deviation has been requested previously and, if so, circumstances of the previous request;
- A statement of the period of time for which the deviation is needed; and
- Any pertinent background information will contribute to a full understanding of the desired deviation.

§961.5 Federal agencies

Federal agencies or departments requiring DOE's disposal services for spent nuclear fuel or high-level radioactive waste shall be accommodated by a suitable interagency agreement reflecting, as appropriate, the terms and conditions set forth in the contract

10 CFR Ch. III (1-1-96 Edition)

in §961.11. *Provided, however*, that the fees to be paid by Federal agencies will be equivalent to the fees that would be paid under the contract.

Subpart B—Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

§961.11 Text of the contract

The text of the standard contract for disposal of spent nuclear fuel and/or high-level radioactive waste follows:

U.S. DEPARTMENT OF ENERGY CONTRACT NO. _____

Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

THIS CONTRACT, entered into this ____ day of _____, 19____, between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), represented by the UNITED STATES DEPARTMENT OF ENERGY (hereinafter referred to as "DOE") and _____, hereinafter referred to as the "Contractor", a corporation organized and existing under the laws of the State of _____, is made as applicable, "acting on behalf of itself and _____".

Witnesseth that:

Whereas, the DOE has the responsibility for the disposal of spent nuclear fuel and high-level radioactive waste of domestic origin from civilian nuclear power reactors in and around the public health and safety, and the environment; and

Whereas, the DOE has the responsibility, following commencement of operation of a repository, to take title to the spent nuclear fuel or high-level radioactive waste involved as expeditiously as practicable upon the receipt of the spent nuclear fuel and/or high-level radioactive waste from the owner of such waste or spent nuclear fuel; and

Whereas, all costs associated with the preparation, transportation, and the disposal of spent nuclear fuel and high-level radioactive waste from civilian nuclear power reactors shall be borne by the owner and generator of such waste; and

Whereas, the DOE is required to collect a full cost recovery fee from owners and generators delivering to the DOE such spent nuclear fuel and/or high level radioactive waste; and

Whereas, the DOE is authorized to enter into contracts for the permanent disposal of spent nuclear fuel and/or high-level radioactive waste of domestic origin in DOE facilities; and

Whereas, the Purchaser desires to obtain disposal services from DOE; and

Department of Energy

§ 961.11

Whereas, DOE is obligated and willing to provide such disposal services, under the terms and conditions hereinafter set forth; and

Whereas, this contract is made and entered into under the authority of the DOE Organization Act (Pub. L. 95-91, 42 U.S.C. 7101 et seq.) and the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425, 42 U.S.C. 10101 et seq.);

Now, therefore, the parties hereto do hereby agree as follows:

ARTICLE I—DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

1. The term *assigned three-month period* means the period that each Purchaser will be assigned by DOE, giving due consideration to the Purchaser's assignment preference, for purposes of reporting kilowatt hours generated by the Purchaser's nuclear power reactor and for establishing fees due and payable to DOE.

2. The term *cost* means a container for shipping spent nuclear fuel and/or high-level radioactive waste which meets all applicable regulatory requirements.

3. The term *civilian nuclear power reactor* means a civilian nuclear powerplant required to be licensed under sections 103 or 104(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2133, 2134(b)).

4. The term *Commission* means the United States Nuclear Regulatory Commission.

5. The term *contract* means this agreement and any duly executed amendment or modification thereto.

6. The term *Contracting Officer* means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer of the DOE; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.

7. The term *delivery* means the transfer of custody, f.o.b. carrier, of spent nuclear fuel or high-level radioactive waste from Purchaser to DOE at the Purchaser's civilian nuclear power reactor or such other domestic site as may be designated by the Purchaser and approved by DOE.

8. The term *disposal* means the emplacement in a repository of high-level radioactive waste, spent nuclear fuel, or other highly radioactive waste with no foreseeable intent of recovery, whether or not such emplacement permits recovery of such waste.

9. The term *DOE* means the United States Department of Energy or any duly authorized representative thereof, including the Contracting Officer.

10. The term *DOE facility* means a facility operated by or on behalf of DOE for the purpose of disposing of spent nuclear fuel and/or

high-level radioactive waste, or such other facility(ies) to which spent nuclear fuel and/or high-level radioactive waste may be shipped by DOE prior to its transportation to a disposal facility.

11. The term *full cost recovery* means the recoupment by DOE, through Purchaser fees and any interest earned, of all direct costs, indirect costs, and all allocable overhead, consistent with generally accepted accounting principles consistently applied, of providing disposal services and conducting activities authorized by the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425). As used herein, the term cost includes the application of Nuclear Waste Fund moneys for those uses expressly set forth in section 302 (d) and (e) of the said Act and all other uses specified in the Act.

12. The term *high-level radioactive waste (HLW)* means—

(a) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and

(b) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

13. The term *electricity (kilowatt hours) generated and sold* means gross electrical output produced by a civilian nuclear power reactor measured at the output terminals of the turbine generator minus the normal onsite nuclear station service loads during the time electricity is being generated multiplied by the total energy adjustment factor. For purposes of this provision, the following definition shall apply:

a. The term *Total Energy Adjustment Factor (TEAF)* means the sum of individual owners' weighted energy adjustment factors.

b. The term *Weighted Energy Adjustment Factor (WEAF)* means the product of an owner's energy adjustment factor times the owner's share of the plant.

c. The term *Owner's Energy Adjustment Factor (OEAF)* means the sum of the individual owner's adjustment for sales to ultimate consumers and adjustment for sales for resale.

d. The term *Owner's Share of the plant (OS)* means the owner's fraction of metered electricity sales, the owner's fraction of plant ownership, or the sponsor company's fixed entitlement percentage of the plant's output. This definition includes joint owners of generating companies or participants in a generation and transmission cooperative.

e. The term *Adjustment for Sales to ultimate Consumer (ASC)* means the owner's fraction of sales to the ultimate consumer multiplied by the owner's sales to ultimate consumer adjustment factor.

Exhibit D

Historical Nuclear Weapons Test Film Festival
Clark County Library, 1401 E. Flamingo, Las Vegas, NV

June 10, 1998

| | |
|-------------------------|---|
| 11:30 a.m. - 12:30 p.m. | Footage from Nevada Test Site historical operations -- "Operation Buster/Jungle" and "Operation Tumbler-Shipper" |
| 12:35 p.m. - 1:25 p.m. | Film Set Overview -- 30 to 45 second clips from each video currently available, including the new set of films being released today. |
| 1:30 p.m. - 2:15 p.m. | Footage from peaceful nuclear explosions in Nevada, New Mexico, and Colorado -- "Nuclear Excavation, Excavating with Nuclear Explosives", "Plowshare", and "Project Bullseye". |
| 2:25 p.m. - 3:15 p.m. | "Atomic Filmmakers" -- Learn about Hollywood's Top Secret film studio and the cameramen who worked the photographing nuclear weapons tests from 1945 until 1963. This video is produced and directed by Peter Kuran, the filmmaker for the award winning motion picture "Trinity and Beyond". |
| 3:20 p.m. - 4:10 p.m. | "The Little Ship" -- 1962 British film which describes the United Kingdom's first nuclear detonation: "Target Nevada" -- a Lookout Mountain film about the Nevada Test Site; and footage from Civil Defense test operations at the Nevada Test Site including nuclear explosion effects on bomb shelters, electrical substations, propane storage tanks, weigh stations, cars, family houses, and marnequins. |
| 4:15 p.m. - 5:00 p.m. | Two new films -- "Exercise Desert Rock" and "Tonopah Test Range". |
| 5:00 p.m. - 6:00 p.m. | BREAK |
| 6:00 p.m. - 6:15 p.m. | Welcome and introduction of guest speakers -- Pat Badin, Classification Officer, U.S. Department of Energy, Nevada Operations Office. |
| 6:15 p.m. - 6:40 p.m. | Film Declassification Project -- Charles Demus, Classification Officer, U.S. Department of Energy, Albuquerque Operations Office. |
| 6:40 p.m. - 8:00 p.m. | Atomic Cinematographers -- Peter Kuran, director/producer of "Trinity and Beyond" showing excerpts from the famous movie, as well as from "Doomtown", and discussing restoration efforts for old, deteriorating films. |

Throughout the day, there will be exhibits, promotional material available, and interactive demonstrations.

FD231

GEORGIA-CAROLINA COURIER
PATRICIA C. McCracken, Editor
Office (706) 738-9451
Fax (706) 738-0637

Exhibit

Nuclear Waste Fund Status
(Billions of dollars, data as of September 30, 1997)

OCRWM Calculation:

| | |
|---------------------|---------|
| Fees Paid | \$ 8.5 |
| Investment Earnings | \$ 2.6 |
| Total | \$11.1 |
| Disbursements | \$ 4.9* |
| Net Balance | \$ 6.2 |

Utility Calculation:

| | |
|------------------------|----------|
| Fees Paid | \$ 8.5 |
| Investment Earnings | \$ 2.6 |
| One Time Fees Accrued: | |
| Principal | \$ 0.9** |
| Interest | \$ 1.3** |
| Defense Fees Owed | \$ 1.0** |
| Total | \$14.3 |
| Disbursements | \$ 4.9* |
| Net Balance | \$ 9.4 |

* Total NWF disbursements only, does not reflect DNWD disbursements of \$ 7B.
Total Program costs, including NWF & DNWD funding, through the end of FY 1997
equal \$5.6B.

** The utility calculation includes one-time fees and interest not yet paid to the Nuclear
Waste Fund. It also includes the accrued fees that the Department owes to date for the
disposal of defense high-level waste, based upon cost share computed in the 1995 total
system life-cycle cost analysis.

FD231

GEORGIA-CAROLINA COURIER
PATRICIA MCCrackEN
PAGE 1 OF 4

To: Inspector General
Department of Justice

From: Patricia McCracken
Georgia-Carolina Courier
413 Scotts Way
Augusta, Georgia 30909
706-738-9451
fax 738-0637

August 12, 1998

Dear Sir:

The electric consumers of America have not been properly informed regarding the events associated with their Nuclear Waste Fund litigation.

This news organization has previously written to Mrs. Reno regarding the lack of information and legal spokespersons at major nuclear gatherings publicizing and promoting various legal positions that impact our nation. We should not have to depend on the reliability of nuclear tabloid publications or utility attorneys with current litigation against the government for our information.

We have requested press releases from the Justice Department in Washington concerning the Nuclear Waste Fund litigation for quite some time and have been unable to get any information from the press or public relations office. The DOE Internet site could not locate any information with the search word lawsuits, nuclear etc. Meanwhile, it appears that lawsuits have been very active at the DOE and Justice. Interested persons attending the various public meetings at the DOE would have no reason to contact the Justice Department for information because that information has not been given through the many DOE outreach and public affairs offices.

Perhaps our United States Attorney's office in Augusta needs to represent the consumers and other government interests of our district. At the very least we would want them to review the pleadings, transcripts and decisions regarding electricity consumers. Furthermore, the Department of Energy's public comment documents and Environmental Impact Statements may not contain all the information known to the Justice Department and the Department of Energy because they are not being sent to the proper parties involved.

FD262

FD262-1

Other

DOE acknowledges the commentor's concerns about the NWPA. The status of the Nuclear Waste Fund implementation is beyond the scope of this SPDEIS.

GEORGIA-CAROLINA COURIER

PATRICIA McCRACKEN

PAGE 2 OF 4

The Department of Defense has a law school. They should study this litigation. If the Justice Department has inadequate funding to defend the DOD, DOE and electric consumers then they could help in the endeavor. Some arrangement could be made regarding some payments they apparently owe to the Nuclear Waste Fund.

The consequences of the decision or decisions regarding the Northern States Power Company verses the United States appear to fall under the NEPA laws. We hope that all the information has been presented to the appropriate groups for action and review. This review should also include information gathered in discovery. If that information is being withheld because of litigation, then no Record of Decisions should be made without all the information known to the agencies. We wonder if various agencies have already made some Record of Decisions without all the necessary information to make a proper conclusion.

The General Accounting Office and other Congressional reporting groups seem to differ on the status of the Nuclear Waste Fund. We hope that the Justice Department and our public attorneys have been able to investigate the status of the fund now involved in litigation. We do not believe that the Justice Department has received all the information or proper expert consultation to conduct this case. We would all like to review the positions of our attorneys and how well and courteously they are being treated by our judges at hearings, but apparently no transcripts are available.

Our news organization has been suspicious that the government's funding for our defense may be inadequate. The complexity of the NWF requires much staffing. We are quite puzzled as to some of the information we have received under FOIA requests regarding your litigation connected to the Nuclear Waste Fund. Some of the questions are quite obvious even to an untutored investigator. We certainly hope that our judges are asking some questions.

Our news organization has been seeking the actual legal documents regarding the Northern States Power Company litigation and any other litigation regarding the Nuclear Waste Fund. It appears that the only way to find out what is really going on in these cases. I would appreciate assistance in obtaining the pleadings, transcripts, discovery and decisions regarding these cases. Also we would like to know if the attorneys were citizens of the United States and their qualifications for such an important case.

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FD262

GEORGIA-CAROLINA COURIER
PATRICIA MCCrackEN
PAGE 3 OF 4

We have obtained some verbal information that indicates that our government has not been very successful in the courts. Your strategy team might want to set up a task force of US attorneys to help with this strategy.

Our current verbal information regarding the status of the Northern States Power Company versus the United States of America indicates that the appeal time clock is ticking. We hope that our attorneys are clicking around and working on our case. Our appeal brief is due by September 2, 1998. Please check on the status of our legal representation. There may be some new information surfacing regarding this case.

The legal representatives for the Northern States Power Company appear to be rather "cocky" about their position at industry meetings. We would like to be sure that their position is correct.

We have learned that all the necessary information regarding the Nuclear Waste Fund litigation have not been received at the Justice legal department working on the case. We suspect that pertinent evidence lists and other information is not currently available at the Justice department for proper decision making sessions. Please check to see if the agency has all the necessary appeals consultants (and that representation reflects all stakeholders) to make a decision. Would you please expedite the legal departments need for information through some emergency fund. Please make that information available for press releases and the public. And please inform the persons or voice message investigators to have a system for inquiries.

Some persons might want to go and see who is representing the government and what questions were being asked at the proceedings. Today's media might even be interested in our officials fashion mode for litigation.

We would also appreciate some assistance and review of the activities of the Nuclear Regulatory Commission regarding their intent and actions developed from the Memorandum of Understanding Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission dated 10/20/97 and the pilot programs external regulation. Portions of our comment dated August 12th. Work plan for the Receiving Basin for Offsite Fuels at the Savannah River Site draft June 25, 1998, under a public comment process states:

The NRC regulations call for antitrust language for Pre-licensing Antitrust Review of Production and Utilization facilities and to

GEORGIA-CAROLINA COURIER

PATRICIA McCRACKEN

PAGE 4 OF 4

Effectuate Certain Other Purposes Pertaining to Nuclear Facilities. In accord with the intent of the NRC to facilitate competition, some review is in order to determine the degree in which your agency would become the monopoly for all the commercial and government nuclear facilities under the current activities outlined in the NRC Memorandum of Understanding between the DOE and NRC. Did the antitrust section of the Justice Department give any review of this work? They have historically notified NRC about such action in court cases. The public would like for the NRC to abide by the same guidelines as the Justice Department uses for other nuclear situations.

Some legal findings have even used language that can mean even setting up a situation that might lead to monopolization. This plan is a monopoly report without input from other agencies with responsibility at DOE. NRC is engaging in unfair monopoly reporting power without allowing access of other reports available in the government market or peer review in the proper fields. The appropriations set up a monopoly reporting power structure and the people are not protected from this monopoly. The work plan should be set up to remedy this situation. The NRC can use the same type of remedies that they have recommended themselves to other parties.

We urge the public get relief from the draft plan of the DOE/NRC.

According to some legal opinions, the Atomic Energy Act was amended by Congress to include a procedure whereby the Department of Justice is to notify the NRC if licensing might create or maintain a situation inconsistent with the antitrust laws.

Thank you for the opportunity to report some citizen comments about our government.

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FD262

GEORGIA-CAROLINA COURIER
PATRICIA MCCrackEN
PAGE 1 OF 6

To: DOE/NRC

From: Patricia McCracken
413 Scotts Way
Augusta, Georgia 30909
706-738-9451

Re: Comments to the proposed Pilot Program on External Regulation of DOE Nuclear Facilities by the Nuclear Regulatory Commission and the public presentation of A document called Work Plan for The Receiving Basin for Offsite Fuels at the Savannah River Site Draft June 25, 1998

Without any formal federal register notices to refer for comment, comments can only relate to the handouts from NRC.

The title to this work plan does not reflect the description of the work plan. Your work plan is much more extensive than this title.

One would like to know your distribution list for your draft as those persons such as myself who attend the public meetings (and produce a newsletter) and comment were not on your mailing list. Mr. Robert Newman was contacted and he did not receive a draft for comment. He has made several presentations at the CAB meetings regarding compliance with DOE orders. He asked me to comment on his behalf and remind DOE of his participation at public meetings and the comment process.

The section of the CDC conducting health studies at SRS did not receive your notice for comment.

This fact alone raises some questions as to the persons at SRS and DOE that are supplying information for this report.

The handout does not seem to have the same format as public notice documents such as the federal register. The intent of the NRC to pursue a project at the Department of Energy must have some legal position statements but they have not been presented for public comment.

Appendix D's Authorization Basis does not appear to be complete for the legal scope. We all certainly would like the NRC to look at the antitrust duties of the agency in reviewing some of the activity at SRS and proposed activity at SRS. We need more specific statutory basis to ensure that the agency covers all the issues important to stakeholders. NRC appears to be trying to establish a

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FD299

FD299-1

DOE Policy

DOE acknowledges the commentor's concern regarding NRC regulation of DOE facilities. Since NRC regulations are beyond the scope of this SPD EIS and the comments do not directly relate to the surplus plutonium disposition program, this comment has been forwarded to the DOE team addressing external regulation and to the DOE Savannah River Operations office.

GEORGIA-CAROLINA COURIER

PATRICIA McCRACKEN

PAGE 2 OF 6

monopoly regulatory agency, which would be in violation of its statutory duties.

We believe that you need permission from other agencies to conduct your work. This memorandum of understanding is suspected to be inappropriate for entry into a defense facility, especially with no Corps of Engineers signature.

We need to know the format for the database of information gathered (categorized to match each work plan section like a docket) for public review purposes. The CDC health studies group (SRS) has a format for collection and public review that is quite extensive and might serve as a model for this massive report.

The statutory authority of the NRC is apparently an issue often debated in the courts. Most of this plan (like page D-2 review, approval, fissionable material operations) is defense related and no related oversight persons are part of your task force. Efforts to contact the DOD oversight at Pentagon have been unsuccessful as there is no telephone answer. That could explain the situation.

The Congress has appropriated (special) money for the NRC to conduct some work at the DOE.

Congress has been utilizing the Nuclear Waste Fund consumers payments and interest to fund other projects such as this one. This does not appear to be legal. The DOE apparently borrows money to make payments to the NWF and then invests that money somewhere.

Your work plan and oversight duties should include an explanation of your funding. Is it part of the Nuclear Waste Fund? Please demonstrate that this money is not part of any of the money (with interest) Congress borrowed from the consumer fund.

The work plan presented does not give the signatures of the authorized representatives of each agency. The Memorandum of Understanding between the DOE and NRC is not presented with any signatures. We would like to know if the persons approving the work plan also approved the adequacy of the appropriation to conduct this work. Was the work plan presented to the persons making the recommendations for the money amounts? We would like the references for presentations.

We have made some inquiries as to the existence of documents

1

FD299

GEORGIA-CAROLINA COURIER
PATRICIA MCCrackEN
PAGE 3 OF 6

that might relate to the subject matter of the pilot project. Many other sections of our government have some oversight regarding the DOE. We did not see any reference to accumulating any of that information. Surely, some of these groups have looked at the existing regulations in our country and perhaps some comparisons internationally. And surely Congress does not have to appropriate special money to check fire extinguishers. Who is checking them now?

The public through FOIA cannot ask for qualifications (DOE Decision and order case number WFA-0348 to Patricia McCracken) of the contractors and we would like to know if NRC will be able to get restricted information regarding the contracting process. Appendix B mentions some estimates of savings associated with using licensed/qualified subs. This term needs a better explanation.

The statements under potential outcomes is really a big policy change. For example, to seek transition of some or all DOE facilities to NRC regulation prior to completion of the NRC/DOE Pilot Program is definitely something that needs more documentation than this work plan. These types of statements trigger NEPA action. Your report did not address that issue.

Your draft did not address the NRC's ability to handle such a mission. The cart is before the horse. Your draft should be explaining your funding outside the commercial licensing process.

We do not know if your information database is secure. We do not know if you are using contractors and if any conflict of interest may exist. We do not know who has access to your reports. Are these reports suppose to be part of the classification system? You apparently have written several reports regarding other sites but no one is allowed to review your work. Stakeholders around SRS might want to review your work.

We do not understand how you are able to come to a defense facility and propose a review of receipt, transfer and inventory of radioactive materials. Please give some exact procedures for this task. Please site the names of the reports you will be using as manuals.

Section J concerns radioactive waste management including effluents and environmental monitoring. This work plan does not give the credentials of the persons or procedures as outlined in the federal register or what. Who will be doing such highly "science specific" assessments. It is

difficult to believe that the task force presented has all the qualifications to conduct such a massive study. OSHA persons might want to include NIOSH persons already doing work at the site.

The work plan leaves out a lot of details that are vaguely mentioned in the MOU which was not attached to the work plan. Of special importance is the MOU explanation of coordination activities. "DOE and NRC agree to enter into an interagency Agreement to reimburse NRC, where legally permitted and not otherwise covered by appropriations, for its agency cost associated with NRC activities to achieve the objectives of the MOU." DOE is currently borrowing money under the Nuclear Waste Fund program while loaning money from the fund. We would like to know the exact interest rate of both policies as it relates to paying NRC.

The part about legally permitted is not explained very well.

Some details regarding salaries is important as apparently the task force must have many credentials (not related in the work plan) and they do not need to be checking fire extinguishers at their payment rate.

Section K C-2 lists Transportation of Radioactive Materials with the scope of review that includes knowledge from shipment to packaging. Again this task force will need some input from other experts and those persons have not been named in this plan. This discussion could be described for so many of these broad outlines in the plan. We would like to request that NRC ask DOE where the transportation alternative plan is located for WHIPP or any other project. NRC would need that plan for reference.

This plan (C-3 O) Fire Protection Program states the review will include an assessment of the procedures for control of combustibles, inspection of portable fire extinguishers. Testing of emergency lights, inspection of chemical storage areas, emergency response and waste removal. The review will also include an assessment of the training requirements for the facility designated fire wardens. We all certainly want to see the trip reports and procedures used by this task force documenting that all these things were conducted by this group. That goes for all the other activities. What persons are already staffed to conduct these activities and why do they need you to help them? The state and local fire and emergency response persons could save you money and help in these projects.

1

FD299

GEORGIA-CAROLINA COURIER
PATRICIA MCCrackEN
PAGE 5 OF 6

3-146

This work plan does not give specific check sheets to be used to assess the many programs and evaluations outlined. Your regulations probably provide guidelines for such forms utilized by your persons. In accordance with your regulations, we would want the same level of expertise assigned to each category as utilized by NRC and its hiring practices and proficiency levels. We would want all forms and evaluation categories signed by the staff person with his credentials for making such an evaluation and determination. The accounting part would be especially important and we would want it signed by a certified accountant.

The proposed environmental monitoring is not specific. Most of the outline appears to discuss the same issues that have been part of CAB meetings and other public meetings and other review groups. Are you starting these programs over? Your claim of an independent review needs some independent contractors outside the DOE if you are going to make such a claim.

Page 8 discusses defining similarities and differences between BOPF and other NRC licensees. The work plan should discuss your staff and the similarities and differences between what you are doing and what they are doing. Any reports should be very specific. The nature of the licensing of the NRC and DOE work are so different in scope that one has difficulty relating the integration.

The purpose of the Memorandum of Understanding to "simulate regulation" when NRC is prohibited from regulation of DOE is confusing. What was the policy for this exemption? Somebody must have had some reasons for this statutory language! If NRC wants DOE to "gain experience", then develop a training program that NRC deems appropriate and present it to the public. Perhaps some debate is in order for who has had the most "experience" at what.

You may want to contact the Georgia Public Service Commission about training programs. Apparently under our new gas deregulation plan, new marketers who cannot collect delinquent accounts as well as the current gas company can be allowed special circumstances (write-offs I think) until they learn and get better at their new service.

This program will not "provide an opportunity to develop actual information on the costs and benefits of external regulation," because you do not (currently) have enough money

or staff to make the comparison. Your budget should be presented with any work plan.

The NRC regulations call for antitrust language for Prelicensing Antitrust Review of Production and Utilization Facilities and to Effectuate Certain Other Purposes Pertaining to Nuclear Facilities. In accord with the intent of the NRC to facilitate competition, some review is in order to determine the degree in which your agency would become the monopoly for all the commercial and government nuclear facilities under the current activities outlined in the NRC Memorandum of Understanding between the DOE and NRC. Did the antitrust section of the Justice Department give any review of this work? They have historically notified NRC about such action in court cases. The public would like for the NRC to abide by the same guidelines as the Justice Department uses for other nuclear situations.

Some legal findings have even used language that can mean even setting up a situation that might lead to monopolization. This plan is a monopoly report without input from other agencies with responsibility at DOE. NRC is engaging in unfair monopoly reporting power without allowing access of other reports available in the government market or peer review in the proper fields. The appropriations set up a monopoly reporting power structure and the people are not protected from this monopoly. The work plan should be set up to remedy this situation. The NRC can use the same type of remedies that they have recommended themselves to other parties.

We urge the public get relief from the draft plan of the DOE/NRC.

The work plan language and general intent for safety and protection are important and everyone wants to be sure that they are addressed with full input and peer review.

Thank you for the opportunity to comment on this important matter in our area. The information regarding this plan has not been fully sent to the public and we hope that more comment opportunity will exist.

FD299

GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
PAGE 1 OF 29

Georgia Department of Natural Resources

205 Butler St. S.E., East Floyd Tower, Atlanta, Georgia 30334
Lonnie C. Barrett, Commissioner
Harold F. Rehels, Director
Environmental Protection Division
(404) 656-4713

September 21, 1998

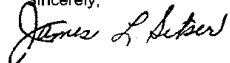
U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D. C. 20026-3786

Dear Sir or Madam:

The Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR) is pleased to provide the following comments on the "Surplus Plutonium Disposition Draft Environmental Impact Statement", DOE/EIS-0283-D. Attached you will find a discussion of issues related to the draft EIS that we feel are significant, as well as detailed page-by-page comments.

Thank you for the opportunity to comment on this document.

Sincerely,



James L. Setser, Chief
Program Coordination Branch

JLS:lm
Attachment

C:\WP51\DOCUMENT\PLUTCVR.LTR

MD322

**Georgia Environmental Protection Division
Issues Related to
Surplus Plutonium Disposition Draft Environmental Impact Statement (DEIS)
DOE/EIS-0283-D**

Use of Existing Facilities at Savannah River Site (SRS)

Many of the SRS alternatives involve utilization of the ageing facilities at SRS. Some of these facilities, particularly the F and H Canyons, have been in operation for more than 45 years. The risk of design-based accidents and the potential that a severe earthquake or other natural disaster such as a severe tornado could occur are of vital concern for the utilization of these facilities. Whereas new nuclear facilities are constructed to seismically withstand the forces of such natural disasters (i.e., 0.2g for a design-basis earthquake), the older facilities are not constructed according to these standards. The magnitude of such an earthquake would be expected to cause severe structural damage that could lead to partial structure collapse and unmitigated releases of radioactive and hazardous material to the environment.

Scheduling

The technology for immobilization of plutonium at SRS is unrealistic from a time schedule viewpoint. The purpose of the current Defense Waste Processing Facility (DWPF) at SRS is to convert the high level wastes in the tank farm to a borosilicate glass form which will be shipped to a National Repository when one becomes available. Because of DOE's failure to successfully conduct In Tank Precipitation (ITP) an ion-exchange system is being considered. If implemented, this system is expected to cost \$500 million and require between 6 and 14 years to implement. The ITP was initially completed in 1988 at a cost of \$32 million and now, more than \$500 million in estimated costs have been incurred and the facility is not operational. While DOE's expectations that all high level waste tanks be emptied and completely processed by 2020, the modifications to the DWPF and related operations for plutonium immobilization at SRS will most likely cause even further delay in processing the existing 32 million gallons of high level waste. This further delay raises the question of an increased risk to public health and safety due to a failure of the old carbon steel tanks that contain the high level radioactive waste.

Proximity of Plutonium Processing Facilities

The separation of an MOX fuel fabrication facility from the pit conversion facility (i.e., pit conversion at Pantex and MOX facility at SRS) could lead to significant control problems related to gallium contamination in the MOX fuel fabrication process. Because hafnium and gadolinium are both neutron absorber poisons that will contaminate the MOX fuel, in a manner similar to the requirement for Hafnium removal in reactor grade zircaloy for commercial LWR's, a polishing process has to be put in place to get rid of the gadolinium. This polishing process needs to be employed at the pit conversion facility if new construction is envisioned because this contamination in the MOX fuel fabrication facility is extremely difficult to control.

MD322

MD322-1

Human Health Risk

As explained in the *Supplement to the SPD Draft EIS*, DOE has eliminated as unreasonable the eight alternatives in the SPD Draft EIS that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization. It was determined that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the annex to be built alongside Building 221-F would be very close in size and environmental impacts to the new immobilization facility alternatives at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS.

MD322-2

Immobilization

Proposed modifications to the in-tank precipitation (ITP) process are independent of the modifications needed at DWPF to support the surplus plutonium disposition program. The use of DWPF to support plutonium immobilization produces only a few additional glass canisters and is unlikely to delay the waste vitrification program significantly or to cause increased risks associated with liquid HLW management. DOE is presently considering a replacement process for the ITP process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

MD322-3**Plutonium Polishing and Aqueous Processing**

Pit disassembly and conversion is a common technology required for implementation of both the hybrid alternatives and the immobilization-only alternatives. The plutonium dioxide produced by the pit conversion facility can be used for either the immobilization or MOX approach. Neither gadolinium nor hafnium is present in pit plutonium metal in concentrations of concern for MOX fuel production. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity (e.g., gallium) removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

Additional processing needed only for MOX fuel fabrication would occur in the MOX facility, not the pit conversion facility. Controls would be put in place to ensure that any contaminants removed during the plutonium-polishing process would not contaminate the MOX fuel fabrication line. As indicated by the analyses, the addition of this process is not expected to materially affect the ability of the candidate sites to handle MOX fuel fabrication.

Location of Facilities

The types of technical problems (i.e., the In Tank Precipitation issue) that have arisen at SRS and DOE's approach to resolving them do not instill assurance that a plutonium pit conversion facility can be developed and constructed in a timely manner at SRS within any reasonable cost estimates. The DOE tiered approach needs supplemental Research and Development (R&D) technology for conceptual design and full scale operational throughput of surplus plutonium material. In addition, it is noted that Pantex with a new Pit conversions facility will provide minimal radiological impact on the population and workers, where there will be a major impact on the workers (349 person rem) and a factor of 10 increase in population radiological exposure if the facility is located at SRS.

4

Facility Accidents

The respirable fraction (the fraction of release consisting of Plutonium particles with a diameter of less than 10 microns is questioned). The DOE use of the fraction (0.1-0.01) 0.01 or smaller for the inhalation pathway to man is questioned. For inhalation of the lung; and TBLN it is noted that the fraction of respirable particles less than 10 microns does indeed affect the dose. What is left out is the fact that going from 1.0 microns to 0.1 micron, there is a 1000 fold increase in particle concentration for a 10 fold reduction in medium particle diameter for Pu-239.

5

6

Review of deposition and scavenging data reveal the difference for dry deposition vs. wet deposition of PuO₂ particles. The average bounds for wet deposition removal rate for particles is 10-4 for stable meteorological conditions and 10-3 for unstable wind conditions. For dry deposition of PuO₂ particles the deposition velocity is a constant value of 10-2 regardless of meteorological conditions. For bounding of particle deposition the maximum expected for wet deposition is 10-2 and for dry deposition 10-1. This 10 fold factor should not be overlooked in considering "respirable fraction".

7

The fraction of energy absorbed in tissue (f₁) is always small for PuO₂. The value of f₁ equals 3x10⁻³ is used for plutonium oxides. The value of f₁ for the other actinides is conservatively set at f₁ equals 10-3. Thus, the actual value has little effect on the estimation of inhalation dose.

8

Ingestion modeling (ICRP-23 1975) indicates that direct ingestion of PuO₂ particles would be a much lesser radiological impact than inhalation. It should be noted that part of inhaled material, however, would be translocated by bodily processes to the gastrointestinal tract. For sake of accuracy the model for the gastrointestinal tract must include all nuclides considered in the inhalation model.

9

The Melcor Accident Consequence Code System (MACCS2) used to calculate the consequences of facility accidents (appendix K) is a sector averaged code as opposed to the straight-line Gaussian. The sector-average equation uses the cross wind integrated model but distributes the Y-concentration evenly over a sector. The width of

10

MD322

MD322-4

Alternatives

DOE acknowledges the commentor's concerns regarding the technical issues associated with pit disassembly and conversion. These issues are the subject of ongoing R&D activities at INEEL, LANL, LLNL, and ORNL. These activities are expected to reduce technical risk and ensure that design, construction, and operation of the proposed surplus plutonium disposition facilities can be conducted efficiently and effectively, and within reasonable cost and schedule constraints. The largest of these activities is the pit disassembly and conversion demonstration project at LANL, a full-scale pit disassembly and conversion line similar to what would be used in the proposed facility. This demonstration project and other R&D activities are described in *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD322-5

Human Health Risk

Sections 4.4.2.4 and 4.6.2.4 present radiological impacts of operating the pit conversion facility at SRS and Pantex, respectively. As shown in the tables regarding impacts to the public, the anticipated dose to the population surrounding SRS from pit conversion facility operations would be 1.6 person-rem/yr (average dose would be 0.0020 mrem/yr), and for Pantex would be 0.58 person-rem/yr (average dose would be 0.0019 mrem/yr); this difference of about 2.8 times is due mainly to the larger population surrounding SRS. As shown in the tables regarding impacts to workers, the worker population dose at the pit conversion facility is 192 person-rem/yr whether the facility is located at Pantex or SRS. The average worker dose is expected to be 500 mrem/yr to involved workers at either site.

Regardless of where the pit conversion facility is operated, DOE policy places safety and environmental considerations above other program goals. DOE dose limit requirements (DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, and 10 CFR 835, *Occupational Radiation Protection*) have been established to protect and ensure the safety and health of the public and workers. In addition, protection of the public and workers is considered by DOE in the design, location, and construction of its facilities.

MD322-6**Facility Accidents**

As used in this SPD EIS, the respirable fraction is the mass fraction of airborne material estimated to have less than a 10-micron aerodynamic equivalent diameter (AED). Use of this definition is common practice within DOE and is included in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994). Section 1.2 of the handbook discusses respirable fraction in detail, citing other definitions that have been used historically by a variety of organizations, and concludes that “use of a 10 [micron] AED cut-size for respirable particles is considered conservative, and may even be overly conservative since the mass is a cube function of particle diameter.”

MD322-7**Facility Accidents**

There is no direct connection between deposition velocity and respirable fraction. Deposition velocity reflects the rate of removal of material from the plume to ground-level surfaces, whereas respirable fraction is the mass fraction of the particulate matter that can be inhaled. As implemented, respirable fraction was used in defining the source term, so that the released plume can be considered 100 percent respirable. Deposition velocity was set to zero, so that no material is assumed to be removed from the plume by this mechanism, thus increasing predicted downwind concentrations and inhalation dose (the most significant dose pathway).

MD322-8**Facility Accidents**

MACCS2 is a standard, accepted code for analyzing the impacts of accidents in EISs and for comparison of alternatives in NEPA documents. The MACCS2 dose conversion factor of 8.33×10^{-5} sieverts/becquerel (3.08×10^{-8} rem/ci) for a 50-year committed effective dose equivalent from plutonium 239 for the inhaled chronic dose pathway to the whole body alleviated the need to assess dose on an organ-specific basis. The presence of other nuclides from the aged plutonium was accounted for by scaling the plutonium 239 dose factor against like factors for the other contributing nuclides in proportion to their presence.

MD322-9

Facility Accidents

Discussion on the use of the inhalation pathway for consequence estimation is in Appendix K.1.4.2. The inhalation dose as presented provides an appropriate basis for assessment of impacts and for comparison of alternatives in this SPD EIS.

MD322-10

Facility Accidents

The MACCS2 code does calculate the centerline ground-level plume concentration; it is not a (crosswind) sector averaged model. Perhaps the commentor is thinking of the GENII code, which is a sector-averaged code. It is not clear what the commentor means by, “DOE need to further elaborate why the MEL’s (sic) maximum exposure would be 100 meters under neutral (Class D) atmospheric conditions and 500 meters under stable (Class F) atmospheric conditions.”

As implemented, MACCS2 sampled over a year’s worth of meteorological data. For each sample, doses were determined along the plume centerline (for MEI and noninvolved worker) and for each fine grid element within each sector under the plume (for the population dose). Appendix K discusses the assumptions used and the accident analyzes conducted.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
PAGE 7 OF 29

a sector is equal to the circumference ($2\pi X$) at distance X from the source divided by the number of Sectors, n (typically $n=16$ as that there are 16 $22\frac{1}{2}$ degree Sectors. The concentration in each Sector is weighted by the fraction of the time that the wind blows into the Sector of Interest (0.01 times the percentage of the time), f_1 that the wind is blowing into the Sector of Interest. Sector averaging is an artifice for representing long-term meandering of the Plume. For accident considerations the center-line ground level source, and ground-level receptor may be more appropriate. DOE need to further elaborate why the MEL's maximum exposure would be 100 meters under neutral (Class D) atmospheric conditions and 500 meters under stable (class F) atmospheric conditions.

10

Direct ingestion of PuO₂ is a less important dose exposure than inhalation because PuO₂ is highly insoluble even in body fluids. The f_1 values (i.e. fraction of a quality that is absorbed from the gastrointestinal track to blood) range from 10-3 to 10-5. The safety requirement should insure that:

11

- a) accident analysis adequately consider all credible scenarios
- b) all appropriate engineering safety systems which are necessary to prevent accidents or mitigate the on-site and off-site consequences of those accidents are identified
- c) the fire hazards analysis be consistent with other accident analysis.

12

DOE estimates of the risk from design based accidents and natural disturbances such as a severe earthquake is judged to be adequate. The highest risk to the maximally exposed off-site individual is a bounding accident because its risk is higher than the risk of other accidents in the same frequency range. The consideration of the risks associated with bounding events or accidents for a facility can establish an understanding of the average risk to workers, members of the public, and the environment from operating the facility. The risks of different facilities can be compared relatively by comparing the risks associated with bounding accidents for each facility. DOE should provide additional consideration of bounding of risks due to accidents.

13

If the specific ground activity is associated mostly with particles of size greater than 50 μ m, a very small air concentration would result from the respirable size particles less than 10 microns.

14

For the Gaussian diffusion model (applicable for continuous and instantaneous sources). The vertical component of turbulence intensity is a strong function of thermal stability, which in turn may be quite variable with height above ground.

15

It is noted that the buoyancy flux is a factor in both stable & unstable meteorological conditions. However, it is questioned why DOE has used different MEL locations as a function of atmospheric stability and this should be explained further. Also it is noted that there will be no plume rise (i.e. buoyancy flux) for normal transportation accidents unless there is a fire.

16

MD322

MD322-11**Facility Accidents**

DOE acknowledges the comment that inhalation pathways represent the greatest risk of exposure. This is accounted for in the MACCS2 model as discussed in Appendix K.1.4.2.

MD322-12**Facility Accidents**

The selection of accidents for this SPD EIS was done in accordance with *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993). Design basis events were developed based on categorizing accidents into types of events, and a bounding consequence was determined for each type. The potential for accidents beyond the design basis was examined down to a frequency of 1.0×10^{-7} per year. This differs from the process-specific analysis, such as fire-hazards analysis, that would be performed in conjunction with the conceptual design package and the analysis performed for the SAR. It is these latter analyses that are used to determine the adequacy of engineered and administrative safety systems, and through which a commitment is made to preserve these protections as part of the operational safety basis.

MD322-13**Facility Accidents**

The Facility Accidents sections in Chapter 4 of Volume I present a characterization of the spectrum of potential accident scenarios that are implicit in the particular alternatives. Each accident is conservatively developed by type, so is therefore considered to bound the accident risk.

MD322-14**Facility Accidents**

There is no connection between ground activity and respirable-size particles. The respirable fraction is determined by the material form and scenario phenomenology and is based on recommendations in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. For example, the respirable fraction associated with fires in the MOX facility is 0.01, or 1 percent of the airborne material.

MD322-15

Facility Accidents

This SPD EIS uses 10-m (33-ft) meteorological data. These are the most appropriate data for use in calculating ground-level concentrations for nonbouyant plumes released at the stack heights analyzed. The vertical component of turbulence is not an important factor in determining downwind concentrations under the assumed release conditions.

MD322-16

Facility Accidents

All plumes released as a result of facility accidents were conservatively assumed to be nonbuoyant. This is reasonable for fires because significant cooling is possible in transit from the fire site to the release point. DOE has not used different MEI locations as a function of atmospheric stability. The MEI is located at the fence line, in the direction downwind from the release point. The MEI location changes for each run within the MACCS2 code because the wind direction changes for each run. This is why there is no single location associated with the MEI dose.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
PAGE 9 OF 29

For new construction at SRS the Design Basis earthquake, the source term is assumed to be 3.8×10^{-4} grams. The dose at the site boundary is 1.7×10^{-5} rem.

For the case of accidents resulting from ceramic immobilization in F-canyon Bldg 221 F and DWPF at SRS, the source term is 3.8 grams. The dose at site boundary is 4.1×10^{-1} rem. Note that a factor 4 orders of magnitude increase in the severity of the accidents dose at the site boundary.

Therefore new construction at SRS is recommended (design basis earthquake) because of the decreases in radioactive emissions of Pu-239. The new facilities would be designed to reduce the frequency of accidents and to mitigate the consequences.

It is noted that for facility accidents, DOE has chosen to only consider the inhalation pathway to the pulmonary region and not consider the effect of resuspension of particles (MACCS2 code). In so doing, the code sets the deposition velocity the zero so that the material that might otherwise be deposited on the ground surfaces remains airborne and available for inhalation. This may not be as conservative for some types of accidents (i.e. particular PuO₂ fires and explosions). Airborne releases of Pu will be in the oxide form and contain a substantial percentage of particles in the "respirable range" (i.e. less than 10 micron).

DOE has limited the duration of accidental releases from SPD facilities to 10 minutes except for fires. This may be a rather limiting value compared to actual release times from other DOE facilities accidents. For fires and explosions it is recommended that the dose pathway from resuspension of Pu particles be included in the dose calculations.

Analysis indicate that when a contaminating event occurs most of the radiation dose associated with the event is committed within a short time (a period of a few weeks or months) unless protective actions are taken. Intervention criteria are based on a projection of the ultimate consequence of the event and a judgement of how certain actions could reduce the impact. Development of intervention criteria requires advance planning, so that emergency response plans can be implemented in a minimum period of time.

The objective of environmental sampling and analysis is to derive information for the purpose of estimating dose rates to pulmonary lung and to bone of exposed individuals. In general, resuspension will relatively high immediately after initial deposition, gradually decrease with time, and approach a long term constant within about one year after deposition. The resuspension rate for newly deposited contamination has been estimated to be higher by a factor of 1000 or more than that for aged sources of plutonium, and therefore, represents a proportionately greater radiological hazard.

The principal difference between the initial phase and long-term phase is that the newly deposited contamination is generally much more mobile and more easily resuspended.

MD322

MD322-17
Facility Accidents

The commentor is correct in identifying large differences between new construction and Building 221-F with respect to structural response to a design basis seismic event.

The remainder of this comment is addressed in response MD322-1.

MD322-18
Facility Accidents

The practice of setting the deposition velocity to zero so that the material that might otherwise be deposited on the ground surface remains airborne and available for inhalation is considered conservative for all analyzed accidents. The respirable fractions used for plutonium fires and explosions are from DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, and are based on experiments of the phenomena in question. Airborne material that is not respirable will not subsequently become respirable because there is no mechanism for getting energy inside the particles to further subdivide them. The process of deposition and subsequent resuspension would tend to result in agglomeration rather than subdivision, so that the quantity of resuspended material that is respirable would be much less than that amount of respirable material in the original plume whose presence can be attributed to the neglect of deposition.

MD322-19
Facility Accidents

The 10-min release duration assumption does not imply that the source term has been truncated; it is simply assumed that the entirety of the source term is released at a constant rate over a 10-min duration. The effect of differing assumptions concerning release duration is discussed in Appendix K.1.4.2. The two factors affecting doses as release duration changes are plume meander and the larger variety of meteorological conditions involved in any given run for longer-duration releases. The effect on dose of these two considerations is as follows. Plume meander decreases individual dose with increasing release duration and tends to narrow the distribution of population doses with increasing release duration. A larger variety of meteorological conditions tends to narrow the distribution of both individual and population doses toward the mean dose with increasing release duration. Both factors would tend to lower (i.e., reduce conservatism of) predicted doses reported in this SPD EIS.

The remainder of this comment is addressed in response MD322-18.

MD322–20

Facility Accidents

As discussed in the Emergency Preparedness sections in Chapter 3 of Volume I, each candidate site has an established emergency management program, including response time requirements, that would be activated in the event of an accident.. Site hazard surveys are periodically updated and would be modified to reflect any new hazards including those based on the decisions made in the SPD EIS ROD. These modifications would include development of revised intervention criteria, if needed, in accordance with DOE Order 151.1, *Comprehensive Emergency Management System*. The MOX facility would also be required to comply with 10 CFR 70, *Domestic Licensing of Special Nuclear Material*, which requires emergency plans that include provisions for notification, response, and coordination.

MD322–21

Facility Accidents

The dose calculations were performed in a conservative manner. To maximize the radionuclide concentrations in the atmosphere (and thus the inhalation dose), the deposition velocity of radionuclides onto the ground from the plume was taken to be zero. While this precludes the resuspension pathway, the increased dose associated with inhaling the radioactivity in the plume from which no radioactivity has been removed by deposition, is greater than the dose that would result from inhaling radioactivity in resuspended material.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
PAGE 11 OF 29

It has been estimated that resuspension from newly deposited PuO₂ material may be as high as 10-4/m, or four orders of magnitude greater than for stabilized PuO₂ contamination.

21

Transportation

The DEIS discusses in detail the analysis of both incident-free transportation and the effects of transportation accidents. The discussion below deals specifically with transportation of either plutonium metal or plutonium oxide to SRS under Alternatives 3 and 5, but also applies to transportation of "pit parts" and high-enriched uranium (HEU) components from Savannah River Site (SRS) to other DOE facilities. It is assumed, based on information presented in the DEIS, that all shipments of plutonium or high-enriched uranium, including new Mixed Oxide (MOX) fuel shipments will be made using a Safe Secure Trailer (SST), operated by the Transportation and Safeguards Division (TSD) in DOE's Albuquerque office.

22

In July 1998, the DOE Deputy Assistant Secretary for Oversight issued a report titled "Independent Oversight Evaluation of Emergency Management Programs Across the DOE Complex". Included in this report is a critique of the TSD emergency management program. The Office of Oversight noted several "issues" related to TSD, including:

- 1) "In September 1996, TSD management mandated the removal of radiation monitoring instruments from all convoy shipments ... [s]ome Emergency Action Levels (EALs) require radiation readings.
- 2) "On November 1996, a TSD Safe Secure Trailer transporting nuclear weapons slid off a road and rolled over near Valentine, Nebraska. According to a Department of Defense Nuclear Command and Control System Support Staff report, almost four hours elapsed before DOE Headquarters was notified, and it was almost 20 hours before a Radiological Assistance Program (RAP) team determined that there had been no radiological release. The report recommended equipping convoys with radiological instruments to provide timely warning of potential personnel hazards.
- 3) "There is a discrepancy between an Emergency Action Level (EAL) in the TSD Hazards Assessment and the emergency management plan. One specifies an alert, while the other specifies a general emergency for the same conditions.
- 4) "The document provided to Convoy Commanders to provide initial protective action recommendations for the public include decision paths that cannot be completed due to lack of observable criteria (requires information not directly observable or measurable).
- 5) "The TSD hazards assessment (May 4, 1994) does not provide an adequate technical basis for ground transportation emergency planning, preparedness and response. No radiological assumptions, models, methodologies or evaluations for TSD convoy event hazards are documented or referenced in the TSD Hazards assessment.
- 6) "The emergency response organizations, procedures and training for TSD and its contractor, Ross Aviation, do not adequately support accurate and prompt

23

MD322

MD322-22

Transportation

The commentor is correct. All shipments of plutonium and HEU, including new MOX fuel shipments, would be made using DOE's SST/SGT system. LLW and TRU waste would be shipped in commercial trucks, not SST/SGTs.

MD322-23

Transportation

DOE's internal and external reviews and assessments are designed to achieve a path of continuous improvement in its transportation and emergency management programs. However, the comments are beyond the scope of this SPD EIS and have been forwarded to DOE's Transportation Safeguards Division for review. DOE is currently analyzing the issues raised in the independent oversight evaluation and will take appropriate action as necessary.

categorization and classification of operational emergencies during transport of nuclear materials or devices."

23

The DEIS discusses "24-hour-a-day real-time communications to monitor the location and status of all SST shipments via DOE'S Security Communications system". For several years, state radiological emergency response organizations, including Georgia's, have had access to the TRANSCOM real-time shipment tracking system. Particularly within the past year, the TRANSCOM system has proven to be unreliable in tracking of domestic and foreign research reactor spent nuclear fuel shipments and Waste Isolation Pilot Plant (WIPP) dry run shipments. It is our understanding that the Transportation and Safeguards Division (TSD) shipments uses the same basic tracking software system, but states will not have access to the tracking information; nor will they have access to advance shipment information which normally precedes highway route controlled quantity (HRCQ) shipments of radioactive materials.

24

The text of the DEIS describes the postulated accident scenarios as "the maximum foreseeable offsite transportation accident", while Appendix L describes them as "the most severe accident conditions". We agree with DOE that Accident Severity Category VIII accidents would be considered "worst case" but assuming that such an accident can occur only in a rural setting does not appear to be conservative. For example, we note that "rural" mileage accounts for approximately 78% of the route between Pantex and SRS, while "suburban" mileage accounts for nearly 20% of the route. In the Atlanta metropolitan area, suburban speed limits outside I-285 are generally 65 miles per hour (mph); rural speed limits are 70 mph. Higher traffic volumes within the "suburban" area, and nearly equivalent speeds as in the "rural" area would seem to increase the relative probability of severe vehicle accidents in the "suburban" areas, and such accidents would potentially have far greater consequences than those presented in the DEIS.

25

The discussion of vehicle accidents specifically addresses the potential for a release of plutonium from the transport vehicle, with subsequent inhalation of plutonium by persons nearby. The DEIS however, states on page L-30, that "postaccident mitigative actions are not considered for dispersal accidents. For severe accidents involving the release and dispersal of radioactive materials into the environment, no postaccident mitigative actions, such as interdiction of crops or evacuation of the nearby vicinity, have been considered in this risk assessment."

The DEIS does not present sufficient information related to recovery. In Appendix K, which in general discusses the effects of facility incidents, the DEIS states "the longer-term effects of plutonium deposited on the ground and surface waters after the accident, including the resuspension and inhalation of plutonium and the ingestion of contaminated crops, were not modeled for the SPD (Surplus Plutonium Disposition) EIS. These pathways have been studied and been found not to contribute as significantly to dosage as inhalation, and they are controllable through interdiction". In previous correspondence with DOE in other programs, we have also met with some resistance to discussing the effects of deposited radioactive materials, as these effects

26

MD322

MD322-24

Transportation

DOE is working very closely with State and tribal representatives to upgrade the transportation tracking and communication (TRANSCOM) system. The shipment of special nuclear materials using SST/SGTs does not involve the use of TRANSCOM. DOE Order 5610.14, *Transportation Safeguards System Program Operations*, specifically requires independent and redundant communications systems between vehicles in an SST/SGT convoy and with SECOM (a secure communications system operated by DOE). For security reasons, State and tribal representatives are not given access to this system. DOE has a system to liaison with State transportation and safety organizations on SST/SGT shipments.

MD322-25

Transportation

The consequences of a Category VIII accident occurring in suburban and urban zones are shown in Tables L-8 and L-9. However, a Category VIII accident in suburban and urban zones would have a frequency of less than 1 in 10 million years and would not be a foreseeable accident. Appendix L was revised to describe the maximum foreseeable offsite transportation accident as occurring in a rural zone. Because the total mileage in urban and suburban zones is much lower than in rural zones, accidents are less likely to occur in urban and suburban zones.

MD322-26

Transportation

DOE acknowledges the commentor's concern about transporting surplus plutonium. The subject of emergency response and subsequent cleanup of an accident that involves the release of nuclear materials, both special nuclear material and waste, is a topic of continuing discussion and planning between DOE and State, local, and tribal officials. Several venues, such as DOE's State and Tribal Governments Working Group and the Southern States Energy Board, are being used to facilitate these discussions. DOE's Transportation Safeguards Division has a formal liaison program with the States related to the transportation of special nuclear materials.

No credit was taken for interdiction or other activities that could be taken after a transportation accident involving a radioactive release, so the doses reported in this SPD EIS are considered conservative. As indicated in

Appendix L.8.4, mitigative actions would be taken following such an accident in accordance with EPA guidelines for nuclear accidents. These actions would result in lowering the actual dose to the surrounding population. As with any transportation accident, local, tribal, and State police, fire departments, and rescue squads are the first to respond to accidents involving radioactive materials. DOE maintains eight regional coordinating offices across the country, staffed 24 hours per day, 365 days per year, to offer advice and assistance. Radiological Assistance Program teams are available to provide field monitoring, sampling, decontamination, communication, and other services as requested. Dose to emergency response personnel is accident-specific and can not be globally estimated. Responders are trained to minimize dose.

The RADTRAN computer code evaluates the dose to the public from the resuspension pathway by calculating a resuspension dose factor. The resuspension dose factor takes into account dose from deposited material that is resuspended by various mechanisms such as wind or traffic. The factor is calculated using the methodology developed by NRC in the *Calculation of Reactor Accident Consequences, Appendix VI to the Reactor Study* (WASH-1400, 1975).

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. Furthermore, as discussed in Appendixes L.3.1.5 and L.3.1.6, DOE would ship all plutonium in Type B containers which must satisfy stringent testing criteria specified in 10 CFR 71, *Packaging and Transportation of Radioactive Materials*. The testing criteria were developed to simulate severe accident conditions, including impact, puncture, fire, and water immersion.

were seen as being more "environmental" than "emergency response".

In order to plan for, equip themselves to deal with, and train their response personnel for dealing with a transportation incident involving plutonium, state and local officials need information regarding both immediate protective measures, and also information related to post-emergency issues such as resuspension and relocation of deposited radioactive materials. For example, regarding vehicular disturbances, Sehmel (1975) has examined the importance of auto and truck traffic in the increasing of resuspension. It was concluded that such disturbance, in the case of an asphalt surface with newly deposited material, will lead to increased resuspension, with a fraction resuspended of the order of 10-5 to 10-2 per vehicle passage. The higher rates occurred at speeds typical of freeway driving. After passage of about 100 cars only a small fraction of the original contamination remained on the road surface. Unless emergency officials promptly close the accident scene to vehicle traffic (an unlikely situation), emergency responders may face an incident scene that is, unknown to them, extremely hazardous due to respirable plutonium. Post-emergency actions may also be complicated due to the enhanced spread of contamination by vehicle traffic. It is worthy of note here that the DEIS presents no information regarding potential radiation doses to response personnel.

Public acceptance of transportation of plutonium (Pu) in the U.S. is not a given. The true risk posed by transportation of plutonium may indeed be very small, but it is not zero, and public perception regarding these risks, and public acceptance of them, is critical to the success of this program. The existence of knowledgeable emergency response personnel at the state and local level, armed with both the training and equipment which would be required to respond to a transportation incident involving plutonium is a critical component in obtaining this public acceptance.

Utilization of Mixed Oxide (MOX) Fuel

There is a major unresolved question regarding the DOE decision to build a MOX fuel fabrication facility. The answer lies with the existing 41 operating commercial nuclear utilities in the United States that DOE expects to use the MOX fuel. There is the potential need for core redesign and other stability and power dynamic provisions imposed on the utility industry. This raises the issue of whether or not rate schedules will absorb the inherent cost of conversion. This may shift the decision away from inclusion of plutonium in MOX fuel and toward the placement of surplus weapons useable plutonium directly into geologic disposal (expected to be located at Yucca Mountain).

Decommissioning and Decontamination of Plutonium Facilities

There is not enough attention given to the end of the plutonium fuel cycle missions in the Draft EIS. Conceptual designs should be provided indicating where decommissioning and disposal (Dad D) considerations have been a driving force in the technology development, fabrication, and operational readiness for chemical and

26

27

28

MD322

MD322-27

MOX Approach

Section 4.28 was revised to discuss the potential environmental impacts of operating the reactors that would use MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. Modifications would need to be made to the fuel assemblies that would be placed in the reactor vessel to support the use of MOX fuel, but the dimensions of the assemblies would not change. DOE has used selection criteria in the procurement process which ensure that the domestic, commercial reactors chosen would be capable of safely and successfully completing the surplus plutonium disposition program. In addition, NRC would evaluate license amendment applications and monitor the operation of the proposed reactors selected to use MOX fuel. After irradiation is complete, the spent fuel would be stored on the site pending eventual disposal pursuant to the NHPA.

The provisions of the DOE contract with DCS to use the Catawba, McGuire, and North Anna reactors would not result in additional cost to the electricity customer.

MD322-28

General SPD EIS and NEPA Process

As described in Section 4.31, features are being incorporated into the designs that would allow future deactivation and stabilization activities to be performed more quickly and easily to reduce the risk of radiological exposure, reduce the costs associated with long-term maintenance, and prepare the buildings for potential future use. Whether DOE would reuse or D&D the facilities following surplus plutonium disposition cannot be determined at this time. DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
PAGE 15 OF 29

nuclear material. There is inadequate assurance that the consideration of risk trade offs in reducing and separating risks, along with well-intended costly measures, will deliver the expected protection of the environment, safety, and health (i.e., the cumulative risk of 50 tons of plutonium immobilization with that of up to 33 tons of plutonium in MOX fuel). DOE's historical approach to evaluating D&D options or the reuse of the facilities only at the end of the useful life of plutonium facilities is unacceptable and serves to detract from the true cost of the front end decisions for facility siting and construction.

28

Chemical Form and Safety

There are concerns about the final chemical and physical form of Plutonium Oxide in the proposed immobilization process. DOE should indicate what technical analyses have been provided to show that plutonium will be uniformly dispersed and subcritical, with no hot spots, eutectics, heat transfer peaks and with acceptable geometric configuration. It is interesting to note that DOE did use values for the airborne release fraction of up to 0.1 and respirable fractions of up to 1.0 for some of the severe accident scenarios; however, DOE failed to include justification for their use of these values for airborne release fraction, respirable fractions, leak path factor, and material at risk.

29

Malevolent Acts

Several of the facility incidents discussed in Appendix K of the DEIS, particularly those events for which the initiating event is an "operator error", could also be intentionally initiated by an operator with malicious intent (an informed insider). It is unclear that the analyses presented in this DEIS consider malicious intent as an incident initiator. A knowledgeable operator with malicious intent could disable or bypass systems which normally would be used to detect or mitigate an incident.

The transportation section of the DEIS, Appendix L, dismisses the possibility of malevolent acts with these words — "[i]n no instance, even in severe cases such as discussed below, could a nuclear explosion or permanent contamination of the environment leading to condemnation of land occur. ... [s]uch attacks would be unlikely to occur ... [o]ther materials, including uranium hexafluoride, uranium oxide, TRU waste and LLW, are commonly shipped, and to not represent particularly attractive targets for sabotage or terrorist attacks".

30

We disagree with the conclusions drawn in this section of the EIS, and request that DOE perform calculations of the consequences of incidents initiated by malevolent acts, including transportation incidents. Results of these analyses should be classified as appropriate, as recommended by DOE Order 151.1, and incorporated into both this EIS and the Emergency Preparedness Hazard Assessment (EPHA) documents for both TSD and the plutonium facilities.

MD322

MD322-29

Immobilization

Numerous R&D studies of the immobilized plutonium forms have been conducted by DOE and the national laboratories, in part to ensure that all environmental health and safety requirements are met. Several technical studies continue. For enhanced readability of this SPD EIS, supporting documentation and detailed analyses of the chemical, physical, and nuclear properties of the immobilized forms were published separately. Information on specific technical aspects of the immobilized forms can be found in the following documents: (1) the immobilization data reports published in conjunction with this SPD EIS; (2) *Report on Evaluation of Plutonium Waste Forms for Repository Disposal* (DI: A-00000000-01717-5705-00009, Rev. 00A, March 1996); (3) *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997); and (4) *Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* (UCRL-ID-128705, October 1997). These documents are available to the public at DOE sites and regional reading rooms; the latter two are also available on the MD Web site at <http://www.doe-md.com>.

The airborne release fractions/rates and respirable fractions used in this SPD EIS for accident analysis are consistent with those stated in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. Appendix K contains scenario-specific summaries detailing the material at risk, damage ratios, airborne release fractions, respirable fractions, and leakpath factors used in the analysis of facility accidents. Additional information supporting values of material at risk, damage ratio, and leakpath factor can be found in the data reports referenced in Appendix K.

MD322-30

Facility Accidents

Sabotage scenarios are considered conjecture and not reasonably foreseeable. Although they were excluded from this SPD EIS, the results of such sabotage (including sabotage by an "insider" and transportation incidents) would be bounded by the accidents presented in Appendixes K and L. The possibility of sabotage would be controlled through the safeguards and security provisions including security requirements associated with facility workers.

The proposed surplus plutonium disposition facilities would be designed and operated in accordance with DOE Orders 470.1, *Safeguards and Security Program* and 151.1, *Comprehensive Emergency Management System*. The MOX facility and proposed reactors that would use the MOX fuel would be subject to similar NRC requirements.

GEORGIA DEPARTMENT OF NATURAL RESOURCES

JAMES L. SETSER

PAGE 17 OF 29

**Georgia Environmental Protection Division
Specific Comments Related to
Surplus Plutonium Disposition Draft Environmental Impact Statement (DEIS)
DOE/EIS-0283-D**

| | | |
|---------|---|----|
| Pg 1-2 | What is DOE's rationale for the alternative of converting 33t of surplus plutonium to MOX fuel? Is there a useful energy recovery goal for the surplus plutonium? | 31 |
| Pg 1-3 | Why does DOE not further discuss the ultimate D&D of the three types of facilities? DOE has a vast experience of the technology and operation of Pu production facilities. | 32 |
| Pg 1-5 | When will DOE provide the separate cost study (DOE 1998a) that should be analyzed along with this SPD EIS. | 33 |
| Pg 1-5 | What will be the cost to the utilities and rate payers for MOX fuel utilization? Will it be similar to spent fuel charges under the NWPA provisions? Are all of the process development costs for MOX fuel a responsibility of DOE? | 34 |
| Pg 1-8 | Why is the lack of homogeneity in less favor than the mobilization and vitrification in the ceramic can-in-canister approach? Has the criticality and heat transfer impacts been fully evaluated? | 35 |
| Pg 1-9 | Why hasn't the Disassembly and Conversion Demonstration Environmental Assessment and Research and Development Activities Report (DOE 1998b) not accompany this SPD EIS? | 36 |
| Pg 1-9 | Why does the ceramic can-in canister approach provide greater proliferation resistance than the glass can-in-canister approach? What lesser environmental impacts justify the ceramic over the glass can-in-canister approach? | 37 |
| Pg 1-9 | DOE states that Hanford's cleanup mission is the site's top priority. Does SRS not have the same top priority of weapons site remedial site cleanup? | 38 |
| Pg 1-10 | Why does the postirradiation examination of the MOX lead test assemblies not be a most desired requirement? This examination is most important in the determination of fuel defects, contamination, neutron absorber capability, hydrogen embrittlement and lastly physical characteristics of creep and swelling of the fuel material. | 39 |
| Pg 1-11 | Will the pit conversion facility commence about 2001 before final evaluation is completed of the DOE/EA-1207 which intended to last up to four years? | 40 |

MD322

MD322-31

MOX Approach

Under the hybrid alternatives analyzed, up to 33 t (36 tons) of surplus plutonium would be made into MOX fuel. DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. If at any time it were determined that any of the 33 t (36 tons) currently proposed for MOX fuel fabrication was unsuitable, that portion would be sent to the immobilization facility. While there is a benefit gained from the use of this MOX fuel in domestic, commercial reactors, the goal of the surplus plutonium disposition program is not energy recovery, but instead disposition of the plutonium in a safe, timely, and cost-effective manner.

MD322-32

General SPD EIS and NEPA Process

This comment is addressed in response MD322-28.

MD322-33

Cost

The cost analysis report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009), was issued in July 1998. Another report, the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013) was issued in November 1999. These reports are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD322-34

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium

as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

The utilities will continue to pay the standard surcharge per kilowatt-hour of electricity used for spent fuel under the NWPA, as amended, regardless of whether the spent fuel is from commercial MOX fuel or LEU fuel. There are no known process development costs for MOX fuel.

MD322–35

Immobilization

The immobilization analysis included in the *Storage and Disposition PEIS* focused on the use of technologies that would blend the surplus plutonium directly with either HLW glass or ceramic in a homogenous mixture. Based on public comments on the *Storage and Disposition PEIS* and technology developments, DOE accelerated research, development, and testing of various aspects of the can-in-canister approach to establish the optimum plutonium concentration and chemical composition of a form that could be readily processed, satisfy nonproliferation concerns, and perform well after emplacement in a potential geologic repository. Included in these efforts were evaluations of criticality and heat transfer issues in addition to those that had been conducted for the homogenous forms. In the *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997), LLNL recommended that DOE pursue only the can-in-canister immobilization approach based upon its superiority to the homogenous approaches in terms of timeliness, higher technical viability, lower costs, and to a lesser extent, lower environmental and health risks. Based on further recommendations from a committee of experts representing DOE, the national laboratories, and outside reviewers, DOE subsequently determined that immobilizing surplus plutonium materials would be best accomplished using the ceramic process. NAS is also currently studying the ability of the immobilization approach to meet the Spent Fuel Standard, including the heat transfer impacts of this approach.

MD322-36**Pit Demonstration EA**

There is no need for the *Pit Disassembly and Conversion Demonstration EA* (DOE/EIS-1207, August 1998) and its FONSI (August 1998) to accompany this SPD EIS because the environmental impacts of the pit demonstration will not affect the cumulative impacts of dispositioning surplus plutonium. This EA is referenced in this EIS for the purpose of keeping the decisionmaker and the public fully informed about all aspects of the surplus plutonium disposition program.

MD322-37**Immobilization**

This SPD EIS considers the immobilization of surplus weapons-usable plutonium in two forms, ceramic and glass; both would be produced using similar processes based on a can-in-canister approach. Past analyses have indicated that both ceramic and glass would be acceptable for immobilizing surplus plutonium. Recently, DOE completed a series of evaluations to determine whether the properties associated with ceramic or glass would be better suited for immobilizing plutonium (*Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* [UCRL-ID-128705, October 1997]). These studies indicated that the use of ceramic would be more resistant to the threat of theft, diversion, or reuse, due to the greater difficulty associated with trying to chemically extract and separate plutonium from the ceramic form than is required for the glass form. The studies also found that ceramic form would likely be more durable over a longer period of time under geologic repository conditions, would require less shielding to protect workers, and would potentially provide significant cost savings. Only minor differences between the two forms are expected in terms of potential environmental impacts, as described in Section 4.29. Whereas the ceramic form would result in slightly higher potential offsite radiological exposures from normal operations, facility accident impacts, and water and electricity requirements, the glass form would result in higher routine and accidental transportation impacts. Overall radiological exposure to workers, as well as anticipated waste types and volumes, would not be expected to differ appreciably between the two forms.

MD322–38

Alternatives

DOE believes that Hanford’s efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities; however, no decision has been made. While it is true that SRS also has cleanup activities underway, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

MD322–39

Lead Assemblies

At the time the SPD Draft EIS was issued, the DOE procurement process to acquire MOX fuel fabrication and reactor irradiation services was not completed. DOE was unsure whether the team that would be selected would be able to use its existing knowledge to determine MOX fuel performance, or if the team would require lead assembly testing to ascertain fuel performance. In consultation with DCS, the team selected during the procurement process, DOE believes that limited lead assembly fabrication and postirradiation examination will be required.

MD322–40

Pit Demonstration EA

Should DOE decide to build a pit conversion facility, this facility would begin operating about 2004 by which time the pit disassembly and conversion demonstration would be completed. Facility design, however, would take place during approximately 1999 through 2001. While the pit demonstration would continue for up to 4 years, the information from the demonstration would be generated, gathered, and available on an ongoing basis. This means that information transfer regarding the fine-tuning of the operational parameters of a pit conversion facility could be provided on a continuous basis throughout the facility design phase. Also, because the information from the demonstration would be used to supplement other information developed to support the design of a pit conversion facility, it would not be necessary for the demonstration to be completed before beginning facility design and construction.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
PAGE 21 OF 29

| | | |
|-----------|--|----|
| Pg 1-12 | Is D and D a major category in the direction of DOE's blueprint for waste cleanup (DOE/EM-0342) ? To what extent does this SPD reflect the implications of waste management and environmental restoration in the paths to closure document? | 41 |
| Pg 1-14 | The SRS Actinide Packaging and Storage Facility is a planned facility, not in operation at this time according to DOE. What is the specific relationship between this planned facility at SRS and SPD? Special concerns relating to the environmental impacts for stabilization of the neptunium-237 aqueous solutions is required. | 42 |
| Pg 1-15 | Has DOE completed further study and evaluation for safety and final thermal loading for the HLW canisters, using the criterion (ie, surrounding radiation barrier for immobilized plutonium)? | 43 |
| Pg 2-8DOE | needs to indicate the potential environmental impacts of the ceramic and glass can-in-canister technologies based on generic designs and compare to those impacts of the homogeneous facilities. DOE needs to evaluate the conceptual design and modifications required by full operational readiness of these facilities. The (DOE 1996a) Storage and Disposition Final PEIS is not adequate in present form for SPD facilities siting. | 44 |
| Pg 2-10 | DOE's development of alternatives should clearly state that useful fissile material energy resource is either to be immobilized and buried as long-term HLW in geologic repository or that a portion of the surplus plutonium is to be utilized as MOX fuel for commercial LWRs. | 45 |
| Pg 2-12 | DOE Feed Preparation Methods for immobilization is considering a major change from the wet-feed preparation process (aqueous processing) to a dry-feed process. It is stated that the dry-feed process requires less quantity of water and generates less amounts of waste, and has been chosen for use in this SPD EIS. This decision based on actinide removal from waste streams needs further evaluation primarily based on the long experience and operations for aqueous processing. | 46 |
| Pg 2-13 | DOE needs to state clearly that for plutonium processing and storage considered in this SPD EIS, material unaccounted for (MUF) will not be allowed for the special nuclear material. The accountability must satisfy the proliferation concerns and inspections of IAEA. | 47 |
| Pg 2-13 | DOE needs to further evaluate to determine if the Pit Disassembly and Conversion is adequate for the removal of gallium. The fuel poison will result in impurity in plutonium dioxide feed for MOX fuel fabrication. This | 48 |

MD322

MD322-41
Waste Management

Comments on the draft and final *Accelerating Cleanup: Paths to Closure* documents (DOE/EM-0342, February 1998 and DOE/EM-0362, June 1998) are beyond the scope of this SPD EIS, although Section 1.8.2 of this SPD EIS describes the relationship between this EIS and those documents. Section 1.8.2 states that this EIS reflects the proposals in *Accelerating Cleanup: Paths to Closure*, to the extent possible, and that subsequent versions of that document will reflect the waste management and environmental restoration implications of the decisions made as a result of this EIS.

MD322-42
Waste Management

DOE has recently decided to delay the construction of APSF, and the *Supplement to the SPD Draft EIS* reflects modifications to disregard any benefit to the proposed facilities of APSF being built at SRS. Stabilization of neptunium 237 solutions would not occur within APSF, if built, and this process is not required to support the disposition of surplus plutonium.

MD322-43
Immobilization

This comment is addressed in responses MD322-35 and MD322-37.

MD322-44
Immobilization

DOE believes the analyses presented are adequate to support the decisions being addressed in this SPD EIS, including the facilities' siting. As a means of bounding the estimate of potential environmental impacts of the immobilization approaches to surplus plutonium disposition, the *Storage and Disposition PEIS* analyzed in detail the construction and operation of generic homogeneous ceramic immobilization and vitrification facilities. Although generic designs were the focus of the study, these designs were analyzed against parameters specific to each of the candidate sites to determine potential site-specific environmental impacts. Several variant immobilization technologies were also discussed in the *Storage and Disposition PEIS*. The subsequent ROD for that EIS states that DOE would make a determination on the specific technology on the basis of "the follow-on EIS" (this SPD EIS). In the tiered SPD EIS, the can-in-canister approach was identified as the preferred

immobilization technology and evaluated in detail as part of each alternative. As a basis for evaluating the alternative immobilization technologies and forms presented in the two documents, the environmental impacts associated with operating the ceramic and glass can-in-canister immobilization facilities evaluated in this SPD EIS were compared with the impacts associated with operating the homogenous ceramic immobilization and vitrification facilities evaluated in the *Storage and Disposition PEIS*. This comparison is presented in Section 4.29.

MD322-45

Alternatives

In Volume I, Chapter 1 discusses the purpose of the proposed action and Chapter 2 describes the development of the alternatives.

MD322-46

Plutonium Polishing and Aqueous Processing

DOE does not agree that aqueous processing for immobilization feed preparation requires further evaluation in this SPD EIS. In addition to higher water consumption and waste generation cited as examples in this EIS, the aqueous process would also present a higher potential for worker exposure to radioactive materials and greater risk to the public. An aqueous process for the conversion of plutonium for immobilization would also require much more control to provide adequate protection against proliferation and to provide for proper oversight by IAEA. Therefore, aqueous processing/wet feed for immobilization is not a reasonable alternative.

MD322-47

Nonproliferation

Security for the proposed surplus plutonium disposition facilities would be implemented commensurate with the usability of the special nuclear material in a nuclear weapon or improvised nuclear device. At any time, the total amount of special nuclear material in each facility, or in any material balance area within each facility, would be known and so material unaccounted for would be avoided. Physical inventories, measurements, and inspections of material both in process and in storage would be used to verify inventory records. In addition, each of the proposed facilities includes design requirements for space, and to varying degrees, access for an international body to verify compliance with international nonproliferation policies.

However, the actual implementation process for ensuring international safeguards of the Russian and U.S. material is not as yet fully defined. That process is part of ongoing sensitive negotiations between the two countries. Under the details of those negotiations, the verification process for compliance of the proposed facilities with international nonproliferation policy could be conducted by a bilateral arrangement that includes access to the proposed facilities only by members of the U.S. and Russian governments, or it could include access to the facilities by an international body, such as IAEA.

MD322-48 Plutonium Polishing and Aqueous Processing

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

| | | |
|---------|---|----|
| | is a major problem and may require a separate Plutonium Polishing Process. DOE has not made a decision on the Plutonium Polishing Process or whether, if needed, it would be placed in the facilities for Pit Conversion or at the MOX fuel fabrication facilities. Gallium contamination, like other neutron absorbing poisons, is a major concern in MOX fuel fabrication. | 48 |
| Pg 2-23 | DOE needs to develop accident scenarios for the case of HEPA filter failure. The occurrence will not provide the DF of 10-4 that is required for 99.99% particle removal as small as 0.3 micron in a flowing airstream. DOE has postulated a LPF value of 1.0X10-5 for two HEPA filters. This is an operational problem and if sand filters are not used in conjunction, will the HEPA filter provide an LPF of 1X10-5 and will not be maintained. | 49 |
| Pg 2-23 | DOE needs to clearly state that SRS has the edge over other facilities by providing the least transportation impacts and necessary experience in plutonium production. | 50 |
| Pg 2-27 | DOE needs to clearly state the time schedules for construction and operation of the MOX Facility Description. Depending upon DOE's decision on immobilization of surplus plutonium, the DOE decision on MOX fuel fabrication depends on a number of other considerations (ie, lead test assemblies, utility acceptance, etc.). The tiered approach of SPD EIS is barely appropriate for siting of MOX fuel fabrication when so many other variants exist. | 51 |
| Pg 2-30 | It is vital that a homogeneous mixture exists in the mixed oxide (ie, blending and milling the PuO2) to achieve the required enrichment and isotopic concentration of the uranium and plutonium powders and to adjust the particle size of the MOX powder. The determination of accurate particle size of the MOX fuel is a most important factor in estimation of severity of facility accidents. | 52 |
| Pg 2-32 | DOE notes that the dose from pit-handling activities at Pantex could be reduced by 40% because the majority of pits are already in storage at Pantex. | 53 |
| Pg 2-56 | DOE needs to determine if the time schedules, reduced cost, infrastructure and other advantages of using the 44-year-old contaminated and aging F-canyon Bldg 221-F outweighs the new building construction at SRS. It is also noted that use of Bldg. 221-F would result in about 0.5 LCF for a designed basis earthquake at SRS. | 17 |
| Pg 2-98 | DOE needs to stress what is the meaning of site limit 10 mrem/year from all facility sources. This is the annual effective dose equivalent to the MEI | 54 |

MD322

MD322-49

Facility Accidents

The assumed leakpath factor of 1.0×10^{-5} for operational HEPA filters is achievable and conservative. However, this SPD EIS also analyzed a number of accidents that involve various degrees of containment failure, including HEPA filter failures. Two of the most significant are the beyond-design-basis seismic event and the beyond-design-basis fire. Details on these and other scenarios are provided in Appendix K and the Facility Accident sections in Chapter 4 of Volume I. None of the proposed surplus plutonium disposition facilities are planning to use a sand filter, so credit has not been taken for that in the accident analysis.

MD322-50

Alternatives

In Volume I, transportation impacts at SRS are summarized in Chapter 4 and described in Appendix L. Infrastructure is also discussed in Chapter 4. As indicated in Chapter 1 of Volume I, the existing infrastructure at SRS is one of the reasons SRS was chosen as the preferred site for the proposed surplus plutonium disposition facilities. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

MD322-51

Purpose and Need

Appendix E includes schedules for each of the three proposed surplus plutonium disposition facilities and the lead assembly facility. This SPD EIS is tiered from the *Storage and Disposition PEIS* because the latter evaluated the disposition of weapons-usable fissile materials at a programmatic level. DOE committed in the ROD on the *Storage and Disposition PEIS* to do follow-on, site-specific NEPA analyses to determine the exact locations for the disposition facilities. The *Storage and Disposition PEIS* considered a broad range of technology options and candidate sites for the disposition of surplus plutonium, and the ROD narrowed the options to those evaluated in the SPD EIS.

The MOX approach includes the testing of up to 10 lead assemblies. However, the facilities where these assemblies would be built and tested already exist and can be quickly modified to support the MOX approach. Utility acceptance has already been addressed with the award of a contract

to DCS and the proposal to use the Catawba, McGuire, and North Anna commercial reactors with partial MOX cores.

MD322-52

Facility Accidents

DOE agrees that accurate particle size of the MOX fuel is an important factor in estimation of severity of facility accidents. The issue of MOX powder particle size was considered in the course of analysis for this SPD EIS as documented in the memorandum, *Particle Size of PuO₂ Generated by HYDOX-Ga Removal Process and Impact on Usability of DOE-HDBK-3010-94 ARF and RF Values* (personal communication from J. Mishima to J. Eichner, Science Applications International Corporation, December 15, 1997). The conclusion was that the values in DOE-HDBK-3010-94 were conservative and appropriate for use in the SPD EIS analysis. This is discussed in Appendix K.1.5.1.

MD322-53

Human Health Risk

Decisions on the repackaging of pits at Pantex have been revisited since the SPD Draft EIS was published. Section 2.18 and Appendix L.5.1 were revised to incorporate a modified transportation dose analysis. If the pit conversion facility is located at Pantex, the dose associated with repackaging the pits for shipment off the site could be avoided, thus eliminating approximately 10 person-rem/yr in worker exposure.

MD322-54

Human Health Risk

In the Human Health Risk portions of Section 4.32, the 10-mrem/yr limit is described in detail. It is stated that there is a 10-mrem/yr NESHAP dose limit from total site airborne emissions, as required by the Clean Air Act regulations and DOE Order 5400.5, *Radiation Protection of the Public and the Environment*.

GEORGIA DEPARTMENT OF NATURAL RESOURCES

JAMES L. SETSER

PAGE 26 OF 29

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| | at the site boundary. This places a limit on the lifetime risk for maximally exposed individuals and average individuals in large population groups. | 54 |
| Pg 2-99 | This is not one of DOE's best examples of commitment for removing spent fuel from the utility storage by January 1998. | 55 |
| Pg 2-102 | With the exception of sulfur dioxide in the ceramic can-in-canister process all criteria pollutant emissions associated with either can-in-canister technology is within limits. If DOE determines that if scrubbers for the sulfur dioxide are required in the conceptual design, it should be clearly stated. | 56 |
| Pg 3-142 | The radiation doses to workers from normal SRS operation in 1996 yields a total effective dose equivalent of 19 mrem for the average radiation worker from on-site releases and direct radiation. This same value of 19 mrem is shown for the Hanford workers in 1996; however, a lower person-rem does of 237 for SRS vs 266 for Hanford. | 57 |
| Pg 3-152 | It is noted that DOE must exhibit constant attention and vigilance to reduce off-site liquid pathway radionuclide contamination. There is widespread contamination on-site at SRS. | 58 |
| Pg K-1 | If the frequency of the initiating event is known, then the point estimate of increased risk of LCF per year may be helpful in understanding individual risk instead of population risk. | |
| Pg K-1 | One type of risk, average individual risk is the product of the total consequence (if known) experienced by the population and the accident frequency, divided by the population. | 59 |
| Pg K-2 | It is noted that the MACCS2 accident model code is capable of calculating individual consequences at the point of maximum consequences but it is not configured to calculate individual risk at the point of maximum risk. | |
| Pg K-5 | It is noted that the accident factors for source term (ie, MAR, DR, ARF, RF and LPF) as indicated by DOE Handbook 3010-94 is questioned. DOE needs to justify the use of these factors in realistic accident scenarios. If the value of each of these factors depends on the details of the specific accident scenario postulated, then that detail must be provided to compare accident risk. Otherwise, the factors are judged to provide source term reduction without justification. | 60 |
| | It is most appropriate to use realistic model input parameters; conservative parameters should be used only to the extent necessary to compensate for uncertainties. | |

MD322

MD322-55

Waste Management

Section 4.28 was revised to discuss the potential environmental impacts of operating the reactors that would use the MOX fuel. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Issues related to a potential geologic repository for HLW and spent nuclear fuel are beyond the scope of this SPD EIS, but are being evaluated in the *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999).

MD322-56

Air Quality and Noise

The sulfur dioxide emissions for the ceramic can-in-canister process are within limits as shown in the immobilization sections of Appendix G (e.g., Table G-9).

MD322-57

Human Health Risk

The reason for the difference in total number of person-rem between the two sites is due to the different number of workers at SRS and Hanford. Total workforce dose (in units of person-rem) is calculated by multiplying the average worker dose by the number of workers at a given site. Thus, for SRS, 19 mrem multiplied by 12,500 workers yields 237 person-rem (237,000 person-mrem). At Hanford, 19 mrem multiplied by 14,000 workers yields 266 person-rem (266,000 person-mrem).

MD322-58

Water Resources

DOE acknowledges the commentor's concerns regarding contamination at SRS. Although beyond the scope of this SPD EIS, activities to remediate existing contamination at SRS are ongoing. In addition, SRS maintains an aggressive waste minimization and pollution prevention program as described in Section 3.5.2.7. Analyses presented in Section 4.26.4.2 indicate that there

would be no discernible impacts to groundwater or surface water quality at SRS from construction and normal operation of the proposed surplus plutonium disposition facilities. If all the proposed facilities were located at SRS, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products, fisheries, and water sources (i.e., the Savannah River). This dose (about 1.6 person-rem/yr) would be 0.0007 percent of the radiation dose that would be incurred annually from natural background radiation. It has also been estimated that a small fraction of this dose (about 0.10 person-rem/yr) would be specifically due to the consumption of aquatic biota (fish or crustaceans) and drinking water (i.e., from the Savannah River) from minute quantities of air deposition and/or from any potential wastewater releases. This estimation is based on historical characteristics associated with F-Area releases to Savannah River outfalls. Nevertheless, public doses incurred from the uptake of these sources were determined to be well below Federal, State, and local regulatory limits.

MD322-59

Facility Accidents

Appendix K.1.1.2, Uncertainties and Conservatism, presents the rationale for preserving the consequences and frequency metrics as the primary accident analysis results, as opposed to risk metrics. However, to assist the interested reader in using the results to calculate average individual risks, the discussion of risk measures was revised to include reference to population figures, which are needed for calculating average individual risk for those living within 80 km (50 mi) of the site. As discussed in Appendix K.1.1.1, average individual risk is sensitive to the choice of the population that is included in the calculation, so care must be taken when interpreting such results.

MD322-60

Facility Accidents

DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, is the accepted standard for determining ARF and RF values. The values specified in that handbook are phenomenology dependent. Application of the values to a specific accident scenario requires characterization of the phenomena associated with that accident and matching of those phenomena with like phenomena in the handbook. Where phenomena do not match exactly, scaling of values may be needed to better characterize the accident. Chapter 7 of the handbook

contains application examples that can be reviewed to clarify the appropriate use of the values. The recommended values in the handbook are bounding, which adds an element of conservatism to any analysis in which they are used but they are also considered realistic for analysis in this SPD EIS. MAR, DR, and LPF factors are developed purely in the context of the analyzed accidents and do not originate from DOE-HDBK-3010-94. Appendix K.1.5 provides information on the specific accident scenarios postulated. Further details are provided in the referenced data reports which are available in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Pg K-12 For an aircraft crash scenario, the DOE Handbook 3010-94 recommends values for debris impact in powder and recommends bounding ARF and RF values of 1×10^{-2} and 0.2 respectively. However, DOE attempts to justify use of a value of 3×10^{-2} for RF and a value of 1×10^{-2} for ARF corresponding to a decreased source term of 104g for the MOX facility and 18g for pit conversion facility accident. 61

Pg K-22 It is interesting to note that for an explosion in sintering furnace a bounding ARF of 0.01 and RF of 1.0 is assumed and based on an LPF of 1×10^{-5} for two HEPA filters, a stack release of 5.6×10^{-4} g of Pu-239 (in the form of MOX powder) is postulated. 62

MD322

MD322-61

Facility Accidents

While, from a risk standpoint, the use of an arithmetic average RF is appropriate, the use of this method is inconsistent with the use of bounding values from DOE-HDBK-3010-94 for other accidents. Appendix K.1.5 was revised to use a respirable fraction of 0.2 and an airborne release fraction of 1.0×10^{-2} for aircraft debris impact into plutonium dioxide powder.

MD322-62

Facility Accidents

DOE acknowledges the comment.

GEORGIA SENATE
HONORABLE CHARLES WALKER
PAGE 1 OF 1

AUG-11-98 TUE 07:40

P. 02

M. H. Holgate
DOE

I'm Charles Walker and I am fortunate enough to represent the people of Burke and Richmond Counties as Senate Majority Leader of the Georgia State Senate. A good deal of these people are touched by the Savannah River Site each day.

Now that the Cold War is over, the United States and the former Soviet Union have agreed to dismantle their nuclear arsenals. The people at SRS and the CSRA contributed to our Nation's nuclear deterrent efforts for over four decades and now these same people are prepared to take on the new, critical mission of plutonium disposition. In particular, the Savannah River Site's unique history make it the logical choice for the pit disassembly and conversion mission.

Why would DOE consider another possible site for this mission? Well, perhaps another facility has the experience that SRS has had handling plutonium. However, DOE acknowledged that SRS was uniquely qualified to handle plutonium when it named SRS as the site of choice for Mixed Oxide Fuel Fabrication.

Perhaps another facility can accomplish the mission at a lower cost to taxpayers. Well, DOE's own cost report that accompanied the draft EIS for Surplus Plutonium Disposition acknowledged that locating the pit disassembly facility at SRS would save taxpayers at least \$60 million. However, the potential savings could reach \$715 million.

Well, if SRS has the experience, infrastructure and can accomplish the pit disassembly mission at a lower cost to taxpayers, perhaps it is a safety issue. Well, how could that be because we know that SRS has the best safety numbers of the entire DOE complex.

Perhaps as Federico Peña indicated on his visit to SRS and CSRA, community support is a major portion of the decision making process. I myself was part of a delegation that met with the Secretary, both here and in Washington, to express the community's support of the plutonium disposition mission at SRS. Other groups have met with DOE to state the overwhelming support that SRS has in the community. In fact, we invite Secretary Richardson to visit SRS and the CSRA to obtain a sense of this tremendous support.

I believe that these hearings will provide overwhelming arguments as to why DOE will decide that SRS is the preferred site for the Pit Disassembly Mission.

Thank you for this opportunity to express my comments.

SCD53

SCD53-1

Alternatives

DOE acknowledges the Senator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses for alternatives associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

GEORGIA SENATE
HONORABLE CHARLES W. WALKER
PAGE 1 OF 1

CHARLES W. WALKER
District 22
Post Office Box 1282
Augusta, Georgia 30903-1282
MAJORITY LEADER



The State Senate
Atlanta, Georgia 30334

COMMITTEES:
Appropriations, Secretary
Health and Human Services, Secretary
Insurance and Labor
Judicial Committee
Public

June 26, 1997

To the Department of Energy & concerned Citizens of the Central Savannah River Area:

I appreciate the opportunity to comment on the proposed decision to consolidate plutonium missions at the Savannah River Site.

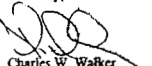
The Savannah River Site continues to play a key role in this community and has the only large-scale plutonium processing facility in the country. From a business perspective, why would you spend the dollars to transport components to SRS? It is only logical to keep all the plutonium handling operations at one site. Furthermore, the Savannah River Site has maintained a good safety record for more than 40 years with the technical experience and expertise in handling plutonium.

The community fully supports SRS for the entire plutonium mission as the lowest cost alternative overall with the least adverse environmental impact. You will find that the level, breadth and depth of support is found at no other site in the complex.

I support this effort and am committed to working with you to do whatever is within my power to assist in stabilizing the workforce and increase employment opportunities at the Savannah River Site.

I ask you to seriously review the request and respond by the time allotted to address you this evening. Thank you.

Sincerely,


Charles W. Walker
Senate Majority Leader

SCD104

SCD104-1

Alternatives

DOE acknowledges the Senator's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Joseph Gilkison
ADDRESS: 3702 WISSELY TRAIL, MARIETTA, GA 30067
TELEPHONE: ()
E-MAIL:

I want to go on record as being in favor of building and operating the Pu Immobilization Facility, MOCX Facility, and the Plutonium Conversion Facility at the Savannah River Site. Locating these facilities at SRS appears to be the most economical alternative. The SRS currently have the trained work force and infrastructure for these missions. In addition, the SRS is currently involved with handling and storage of Pu.

The alternative site for the Plutonium Conversion Facility at Pantex does not make sense to me. PANTEX does not currently have the trained and experienced work force for handling Pu. Further, starting of Pu handling at PANTEX will open that site to new hazardous waste streams not currently being handled by that site.

In my opinion, the Savannah River Site is the obvious better choice for all three missions.

1

SCD54

SCD54-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I am pleased to have the opportunity to provide comments to DOE on an issue of such global importance as the disposition of weapons surplus plutonium. The following statements represent my personal positions on the "Surplus Plutonium Disposition Draft Environmental Impact Statement" (DOE/EIS-0203-D), and should in no way be construed as being representative of the positions of my employer or any organization that I represent in any official capacity. All of the following comments should be considered in the context of my personal belief that consolidation of all aspects of the plutonium disposition mission at a single site has decided cost, management, environmental and safety advantages over other alternatives.

1

As brought out by several commenters at public hearings on this draft EIS, public support, or at least public acceptance, of plutonium disposition missions will require the highest level of public and worker safety and environmental protection. The overall success of plutonium disposition missions will require that vigorous environmental management (including both on-site and off-site environmental monitoring) and emergency preparedness programs are conducted as integral and vital parts of the mission, not as "overhead" functions as they seem to be currently viewed by DOE. Independent participation in these programs by agencies of affected state and local jurisdictions is essential to their success, and DOE should facilitate realistic participation in these programs through new or existing Agreements in Principle (AIP's) with affected jurisdictions.

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WD023

WD023-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at one site. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

WD023-2

DOE Policy

DOE Order 151.1, *Comprehensive Emergency Management System*, contains requirements for emergency-related offsite interfaces addressing accident conditions. This order states that Hazards Survey/Assessment results should be used to generate a listing of all services which may be needed to respond to postulated accident conditions. Examples of services which may be required include hospitals, fire departments, law enforcement, accident investigation, analytical laboratory services, ambulance services, coroners, suppliers, contractors, and others. Services needed should be checked against the capabilities of the identified interface organizations and agencies to ensure all are addressed. An interface should be established with each entity from which support will be needed and appropriate agreements prepared. For multiple-facility/sites, the contractor and operations/field office with site-wide responsibility should provide centralized point of coordination. The agreement should contain, at a minimum, the following information (1) the specific service to be provided; (2) point of contact and information required to initiate the service; (3) any constraints which might preclude the organization from meeting its obligation; (4) public information release protocols; (5) financial arrangements, including commitments by the facility/site to provide training, equipment, and facilities to the entity providing the service (considerations include indemnification for injury to persons or loss and damage to property); and (6) periodic re-examination of the provisions and a renewal or termination date.

If a facility/site is to provide support to an offsite agency under the good neighbor policy or through mutual aid agreements, those support interfaces should be documented. In addition, DOE radiological emergency response

Public perception of the risks related to the transportation of plutonium between DOE facilities, and public acceptance of them, is critical to the success of the entire plutonium disposition mission. The existence of knowledgeable emergency response personnel at the state and local level, armed with both the training and equipment which would be required to respond to a transportation incident involving plutonium is a critical component in obtaining this public acceptance. State and local response personnel, however, do not have ready access to specialized equipment and training required to make a radiological assessment of a transportation accident involving weapons-grade plutonium. It is incumbent on DOE to make such equipment and training available to response personnel in jurisdictions through which plutonium would be shipped under this EIS.

The EIS discusses in some detail both the postulated effects of plutonium disposition facility accidents and accidents during transportation of plutonium between DOE sites. The information presented, however, is incomplete, and does not present a true picture of the potential severity of an accident involving weapons grade plutonium. Some of the issues that I feel need to be addressed in the final EIS are:

1) The EIS does not present sufficient information regarding the short-term and long-term effects of the deposition of plutonium either during a transportation accident or a facility accident. The EIS does mention that long-term effects of plutonium deposition, including the resuspension and

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WD023

assets are available to support offsite officials in the event of a radiological incident. Facilities/sites should coordinate with offsite officials to provide information on the availability and capabilities of DOE radiological emergency response assets. Facility/site plans should describe integrated support from other offsite response organizations responding to emergencies. The organizations may include groups from outside the facility/site (emergency planning zone) that respond under provisions of the Federal Radiological Emergency Response Plan for radiological emergencies; the National Oil and Hazardous Substances Pollution Contingency Plan, also known as the National Contingency Plan, for oil and nonradiological hazardous material emergencies; or the Federal Response Plan, if the situation is declared an emergency or major disaster by the President. If the county(ies) is declared a Presidential disaster area and the Federal Response Plan is activated, FEMA will establish a Disaster Field Office, from which Federal and State personnel will coordinate activities.

WD023-3

Facility Accidents

Appendix K.1.4.2 provides the rationale for focusing on the inhalation pathway when calculating plutonium dose. This is the pathway of significance for estimating doses due to the postulated accidents analyzed in this SPD EIS. While these accidents would deposit plutonium on the ground, there would be ample opportunity to interdict any potential significant doses from resuspension or through food or water pathways. The consequences, therefore, would be mainly economic rather than health related. The transportation analysis deals with the risk of all accidents along a route, rather than the consequences of a single accident at a specific location. Appendix L.8.4 presents a description of the uncertainties inherent in this approach. Appendix L.6.3 was revised to include a description of specific impacts of hypothetical accidents.

In general, economic costs can not be calculated with any reasonable degree of accuracy. Because of this, as well as the very low probability of accidents of the magnitudes considered for purposes of analysis, the impacts on natural-resource-related economies were regarded as beyond the scope of analysis. Long-term effects of contamination following a facility or transportation accident were not analyzed in detail for this EIS because the

inhalation of plutonium and the ingestion of contaminated crops are controllable through interdiction. In previous discussions, DOE has indicated that it views the effects of deposited radioactive materials as being more in the “environmental” arena than the “emergency response” arena. DOE should fully discuss the potential for ground contamination resulting from facility or transportation accidents, and discuss the short-term and long-term effects of such contamination, including the need for interdiction of lands and agricultural restrictions.

3

2) The EIS does not discuss the potential for facility incidents initiated by malevolent acts. The EIS does briefly discuss malevolent acts related to transportation of plutonium by Safe Secure Trailer (SST), and dismisses them with the statement that “in no instance, even in severe cases ... could nuclear explosion or permanent contamination of the environment leading to condemnation of land occur.” I find this view, particularly in today’s environment of global unrest, to be particularly troubling. I strongly urge DOE to revisit both the facility and transportation accident sections of the EIS, and to specifically consider the effects of incidents initiated by malevolent acts. If necessary, this analysis could be presented as a classified appendix to the final EIS and an unclassified summary for publication.

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WD023

risk would be much lower than that associated with inhalation. Moreover, quantitative analysis of low-level contamination would require significant accident-, weather-, and site-specific analysis. In the unlikely event of an accident, DOE would thoroughly investigate potentially affected areas and determine the need for interdiction or other specific actions.

WD023-4

Facility Accidents

The possibility of malevolent acts is controlled through the DOE safeguards and security provisions that are associated with facility operations. Guidance in *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993) states that impacts should be analyzed if they are reasonably foreseeable. The definition of reasonably foreseeable requires that the analysis is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. Malevolent acts are considered conjecture and were therefore excluded from analysis. Appendix L.6.5 was revised to expand the qualitative description of the consequences of malevolent acts during transportation.

3) The EIS does not discuss potential doses to emergency personnel responding to either facility or transportation accidents. Transportation accidents pose several challenges, particularly since Transportation Safeguards Division (TSD) convoys no longer carry radiation detection equipment. In the recently published report "Independent Oversight Evaluation of Emergency Management across the DOE Complex" (DOE Office of Environment, Safety and Health, July 1998), the DOE Office of Oversight notes that it took some 20 hours for a Radiation Assistance Program (RAP) team to determine that there had been no radiological release from a 1996 SST accident in Valentine, Nebraska involving nuclear weapons. As mentioned above, state and local response personnel do not typically have ready access to specialized equipment required for monitoring for weapons-grade plutonium, and the lack of a timely and credible radiation monitoring capability may significantly hamper response efforts, and may endanger response personnel.

5

4) The above-referenced report by the DOE Office of Oversight noted several complex-wide generic "weaknesses" in DOE emergency preparedness, including event classification and the determination of protective actions. The report noted that "(t)he Savannah River Site (SRS) emergency management program is fundamentally sound and includes the essential elements required by DOE orders." The report, however, does note that "the emergency

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WD023-5

Facility Accidents

The estimation of doses to emergency response personnel is not within the scope of the SPD EIS analysis. Response personnel are trained, protected, monitored for exposure, and restricted to specific dose limits. As discussed in Appendix K.1.4.1, calculation of specific doses to emergency response personnel is subject to the same analytical difficulties as calculation of doses to facility workers, so is not considered meaningful.

Transportation of special nuclear materials would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo, including pits, over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

For emergency response planning, all shipments are coordinated with appropriate law enforcement and public safety agencies. If requested, DOE would assist these officials with response plans, and, if necessary, with resources in accordance with DOE Order 5530.3, *Radiological Assistance Program*. DOE has developed and implemented a Radiological Assistance Program to provide assistance in all types of radiological accidents. Through

operations center lacks an effective process and mechanisms to perform timely and accurate assessments of emergency event consequences”, and recommends that SRS “(i)mprove the consequence assessment process to ensure that source term estimation, dispersion modeling, consequence assessment, and formulation of protective actions can be completed in a timely manner”. The report further recommends that SRS “(p)rovide additional policy, guidance, and training to improve prompt and conservative classification decision-making by responsible emergency response organization personnel.” The report did not discuss emergency management capabilities at Pantex.

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Thank you for the opportunity to provide comments on this draft EIS.

James C. Hardeman, Jr.
 431 Meadowfield Trail
 Lawrenceville, GA 30043
 hardeman@mindspring.com

WD023

this coordination and liaison program DOE offers in-depth briefing at the State level. These activities would ensure that State and local officials are prepared for the initial response and that specialized equipment commensurate with the potential severity of the accident would be available. In the event of an accident, if requested by a State, tribal, or local agency, DOE would send a radiological monitoring assistance team from the closest of eight DOE regional offices located across the country.

WD023-6

Facility Accidents

It is not within the scope of this SPD EIS to address independent reviews of site-specific programmatic areas such as emergency preparedness. The existence of recommendations to improve what has been judged to be a “fundamentally sound” emergency management program at SRS does not invalidate the analyses performed for this EIS.

As part of the development of a transportation plan, details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be addressed before any hazardous material was shipped. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, tribal, and local governments for maintaining emergency response programs, there are national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, tribal, and local agencies who might be involved in responding to a radiological incident.

This comment is being submitted by J., the initial J, Larry Harrison, 4175 Quinn Court, in Evans, Georgia 30809, work phone area code 803-208-7182. I'm commenting on the Surplus Plutonium Disposition, in particular, the pit disassembly and conversion process. Before I transferred to the Savannah River Site in 1992, I was involved with process development optimization for a production of commercial nuclear fuel for over 20 years. And despite all of the political pressures at work in determining the location of the pit disassembly and conversion facility, the final decision should be made on the basis of which location will provide the safest most efficient operation of all facilities involved in the disposition effort. I 'd like to provide some input based on my commercial nuclear fuel fabrication experience. Though this, this experience was with uranium oxide pellets, the only type utilized in U.S. commercial reactors for power generation. It is still pertinent to mixed oxide (MOX) fuel pellets made from a blend of primarily uranium oxide with some plutonium oxide. I have worked for two different fuel fabricators, one where the conversion to uranium oxide powder was performed within the same facility as the fuel fabrication and another where the conversion process was located several hundred miles away from the fuel fabrication plant. The problems observed with the latter situation brings to mind some factors which need to be considered when selecting a site for the conversion facility. The manufacture of nuclear fuel is very difficult and an exacting process. The

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PD058

PD058-1

Alternatives

DOE acknowledges the commentor's support for siting both the pit conversion and MOX facilities at SRS. DOE appreciates the commentor sharing technical reasons for collocating the pit conversion and MOX facilities, based on many years of working in fuel fabrication. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

final acceptance or rejection of fuel may hinge on the particle size of distribution of the starting powder, parts per million of impurities, the impurity of the atmosphere gas in the furnace used to thermally treat the pellets, or a few ten thousandths of an inch in the pellet diameters after grinds, is to name just a few variables. Properties of oxide powder have a significant impact on the process fuel in fabricating pellets. It is difficult to write specifications for the powder to cover all variables which can impact the pelleting process and ultimately the acceptability of the fuel. It is a combination of the powder properties and variables and pelleting process which determine the final pellet characteristics. With MOX fuel the powder properties are particularly important as the blend of uranium and plutonium oxides must be extremely uniform. It is also difficult to perform testing in a lab scale equipment and reliably predict the outcome when the same material is processed through a production line because of many variables which influence final pellet characteristics. Location of the conversion facility in close proximity to the MOX fabrication plant would provide the opportunity for testing of material when needed. A hypothetical situation might be a batch of plutonium oxide powder which is barely out of specification. If a sample can be run through the nearby MOX facility and is determined acceptable pellets can be made, the cost of scraping and remaking powder can be avoided. This

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PD058

potential would not exist if the conversion and MOX plants are hundreds of miles apart. Due to the safety and security concerns associated with transporting plutonium, it would not be practical to build a MOX production line at the conversion facility solely for testing purposes. Due to the difficulty in detecting subtle changes in plutonium oxide powder properties, the problem may not be detected until the material is processed in the MOX facility. If the conversion facility site is distant from the MOX plant there will probably be more material in the "pipeline" with the same problem than if, if operations were adjacent to each other, again, due to the problems associated with transporting plutonium. DOE should carefully consider what capabilities are needed for purification, if any, to make acceptable plutonium oxide powder for fabricating commercial nuclear fuel and whether that processing is performed at the conversion or MOX facility or both. Also the capability to recycle and purify MOX scrap must be addressed. There are advantages in locating the purification capabilities at the conversion facility, and, if aqueous versus dry purification is deemed necessary, SRS is the obvious choice for conversion due to the existing capability to handle associated waste streams, while Pantex has none. Other considerations in selecting the pit disassembly and conversion site is analyzing the risks and costs associated with transporting plutonium in a form of pits to SRS, if the facility is located there versus transporting plutonium oxide from Pantex to SRS if the facility is at Pantex.

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Also even though there is a lot of experience with fabrication of MOX fuel outside the U.S., the plutonium oxide source was the recycle process versus weapons material. This difference will almost assuredly have some impact on MOX fuel fabrication require additional process development. This is another reason for co-locating the conversion and the MOX fuel fabrication facilities. Given that SRS is the site of choice for the MOX facility, above reasons and others clearly show that the pit disassembly and conversion should be located there also. I will submit a written copy of this by mail. Thank you very much. Bye.

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PD058

HYDE PARK AND ARAGON PARK IMPROVEMENT COMMITTEE, INC.
CHARLES N. UTLEY
PAGE 1 OF 2

HYDE PARK AND ARAGON PARK
IMPROVEMENT COMMITTEE, INC.
2024 Golden Rod Street
Augusta, Georgia 30901

August 13, 1998

Department of Energy Public Hearing
North Augusta, South Carolina

The Hyde Park, Aragon Park and Virginia Subdivision communities consist of approximately 1,500 to 2,000 residents. We are in favor that Surplus Plutonium Disposition be awarded to the SRS site with the following request:

-That jobs be given to qualified persons living in the CSRA (Central Savannah River Area) first before importing workers from outside the area.

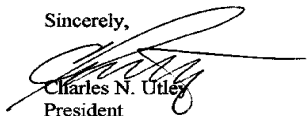
-That DOE put in place safe-guards against political sabotage, for example; that budget restraints don't leave the area with undesirable contamination. That political parties Democrats/Republican don't abandoned the project for party sake. That the Department of Energy keep this process in place until all phases of the process is completed to include clean-up.

-That SRS/DOE continue to consider the highest/safest method of transporting material through communities, be at it's highest quality at all times. This is to assure that the communities that the route will be taken will be the most excluded route to avoid contact with communities.

-That workers safety will never be abandoned for the sake of the production. That workers safety continue to a number one priority for DOE/SRS as it has been in the past.

-That DOE/SRS remove the finish product in a reasonable time frame and that SRS never becomes a permanent storage place.

Sincerely,


Charles N. Utley
President

SCD11

SCD11-1

DOE Policy

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. The proposed facilities would be built and operated based on a competitive contract award. DOE would defer to the winning contractors to hire and train the people needed to build and operate the proposed facilities. As such, DOE cannot mandate that all the positions be filled by people living within the Central Savannah River Area, but it is likely that many of the positions would be filled by local hires.

SCD11-2

DOE Policy

DOE acknowledges the commentor's concern that the surplus plutonium disposition program has the support necessary to reach completion. The U.S. Congress will continue to appropriate the funds necessary to honor the agreements made by Presidents Clinton and Yeltsin regarding mutual reduction of plutonium stockpiles. When the missions have been completed and the surplus plutonium disposition facilities are no longer needed, deactivation and stabilization would be performed. As discussed in Section 4.31, features are being incorporated into the designs that would allow future deactivation and stabilization activities to be performed more quickly and easily to reduce the risk of radiological exposure; reduce the costs associated with long-term maintenance; and prepare the buildings for potential future use. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

SCD11-3

Transportation

DOE acknowledges the commentor's concern about transportation. As described in Appendix L.3.3, transportation of nuclear materials would be performed in accordance with all applicable DOT and NRC transportation requirements. Interstate highways would be used, and population centers avoided, to the extent possible.

The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear

materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

SCD11-4

DOE Policy

DOE acknowledges the commentor's concern regarding worker safety at SRS. The health and safety of both workers and the public is a priority of the surplus plutonium disposition program. DOE would comply with all pertinent Federal, State, and local laws and regulations and would meet all required standards. Chapter 5 summarizes the pertinent environmental regulations and permits required by the surplus plutonium disposition program.

SCD11-5

DOE Policy

It is not DOE's intention to make SRS a permanent storage site for surplus plutonium disposition material. MOX fuel would be transported to commercial reactors to be used. The resulting spent fuel would be temporarily stored at the reactor sites until it is sent to a potential geologic repository for permanent disposal. Immobilized plutonium would be temporarily stored at SRS until it is sent to a potential geologic repository for permanent disposal as and when the repository becomes operational. For purposes of this SPD EIS, DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.



United States
Department
of Energy

Comment Form

NAME: (Optional) Robert INGHAM
ADDRESS: 311 WINDSOR CT, HEPHATHA, GA 30815
TELEPHONE: (706) 771-90100
E-MAIL:

PUBLIC AWARENESS ALLOWS FOR
PUBLIC RESPONSIBILITY

1

SEE RICHMOND COUNTY DEMOCRATIC COMMITTEE
FOR E-MAIL
ROBERT INGHAM -
OR GEORGIA EDUCATORS

SCD64

SCD64-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's views on the value of public awareness in connection with the surplus plutonium disposition program. DOE used several means to solicit comments on the surplus plutonium disposition program from the public; State, local, and tribal officials; special interest groups; and other interested parties. These include mail, a toll-free telephone and fax line, and the MD Web site. In addition, DOE has conducted public hearings in excess of the minimum required by NEPA regulations on the weapons-usable fissile materials disposition program and discussed materials disposition in many other public forums. Moreover, MD has produced fact sheets, videos, reports, and other information on issues related to surplus fissile materials disposition to enable the public to participate in a meaningful way.

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
T. S. YARBROUGH
PAGE 1 OF 1



International Brotherhood of Electrical Workers

LOCAL UNION 1579
 1250 REYNOLDS STREET

AUGUSTA, GEORGIA 30901

Phone: (706) 722-6357 • Fax: (706) 724-9792



August 13, 1998

MOX & PIT DISASSEMBLY & CONVERSION PROJECTS

- The Augusta Building & Construction Trades Council is a major stakeholder of SRS. Our construction workers are the true cold war warriors.
- I want to voice the Building Trades unequivocal support for SRS to be the DOE's choice as the site for plutonium disposition. Our craftsmen not only have built nuclear and chemical operating facilities but they also have performed millions of hours of work under radiological conditions. They understand the strict discipline it requires to safely perform under these conditions.
- Speaking of safety, we in the South have good manners and we will not talk badly about another DOE site. However, I do want to let you know what our construction crafts have achieved in an extremely hazardous industry. Working with our contractors, our goal is "Zero Accidents". This means we view "no injury" to be acceptable. Since 1989 we have achieved the following records:
 1. 1,000,000 million SAFE hours = 29 times
 2. 2,000,000 million SAFE hours = 9 times
 3. 2,500,000 million SAFE hours = 4 times
 4. 5,000,000 million SAFE hours = 1 time
- **SAFE Hours** means we did not experience any lost workday cases. It means our members came home to their families every evening the same way they left for work in the morning – with all of their fingers, with both hands, with both arms, with both legs and with a smile on their face because they know that **SAFETY** is important at the Savannah River Site!

Working with Bechtel, we established the S. A. F. E. – T process (Self-Awareness for Employees Team). Our craft stewards and workers designed a **NO NAME – NO BLAME** process that heightens worker awareness of safe and at-risk practices. We have Craft Workers observing work activities and provide feedback to reinforce positive or safe actions, and to help bring attention to at-risk work practices through discussion with the worker at the conclusion of the observation. We encourage comments to identify strengths and weaknesses in our safety effort.

I challenge you to find a better construction safety environment in the DOE complex.

- I don't want to take all of your time, so let me just summarize by saying that both **MOX** and the **PIT DISASSEMBLY** projects should be located here. The Building Trades and the entire community of the CSRA have supported SRS since the first shovel of dirt. We have the skilled workforce to **SAFELY** build and operate these facilities.

All we need is y'all to make a quick decision and let's go to work!

Thank you,

T. S. Yarbrough

T. S. Yarbrough,
 Business Manager & Financial Secretary

SCD10

SCD10-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

My name is Joan King. I'm living in White County, North Georgia. I followed nuclear issues for some time and have attended numerous DOE hearings. I'm familiar with the disposition problem. I've been down to Savannah, down to Augusta when they were discussed and I am opposed to using MOX fuel. I think this is a very slippery path that will lead to many many more problems in the future. I know we have to dispose of this stuff. I think we have the ability to glassify it to do a number of things. I know the government promises a once through process but there is no way they can control this in the future. We don't have the institutional consistency to be able to assure people that this will take place.

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We need to immobilize this in glass and get it underground. We do not need to promote the nuclear industry by giving them another form of fuel. That if heading toward a plutonium economy which will be disastrous for the rest of the world and for future generations. My number is area code 706-878-3459. I appreciate this and I am going to try follow it up with a fax to restate these so you will have a hard copy for the record. Thank you very much. Bye.

2

PD001

PD001-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

PD001-2

Alternatives

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

KING, JOAN O.
PAGE 1 OF 1

ATTENTION: DOE, Department of Storage and Disposition of Fissile Materials

This fax is a follow-up to a comment made by phone from Joan O. King made today, July 22, 1998

I have followed nuclear issues for many years and have attended DOE hearings of the Storage and Disposition of surplus fissile material. I am opposed to the use of plutonium as reactor fuel___the MOX option.

We have adequate methods for immobilizing fissile material taken from dismantled nuclear weapons. We had adequate sources of uranium for new fuel. We do not need to do anything that would promote a "plutonium economy" or encourage reprocessing by any nation including our own.

I have heard the arguments in favor of burning plutonium in U.S. reactors and the government's promise of a "once through" process. These are good intentions, but there is no way the present government can control what is done in the future. History has proved the fragility of promises like this.

DO NOT PROMOTE ANY PROGRAM THAT USES PLUTONIUM AS FUEL.

Joan O. King
 304 Manor Drive
 Sautee, GA 30571

(706) 878-3459

FD001

FD001-1

Alternatives

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

FD001-2

DOE Policy

For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

LOWER SAVANNAH COUNCIL OF GOVERNMENTS
HONORABLE W. H. BURKHALTER ET AL.
PAGE 1 OF 1

RESOLUTION
SUPPORTING THE SAVANNAH RIVER SITE'S MAJOR PLUTONIUM MISSIONS

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and


WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on the workers, the public or the environment; and

WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS, the Lower Savannah Region strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED THAT the Lower Savannah Council of Governments strongly endorse major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

**APPROVED THIS 13th DAY OF MARCH 1997, BY THE BOARD OF DIRECTORS
OF THE LOWER SAVANNAH COUNCIL OF GOVERNMENTS.**


Chairman
Lower Savannah Council of Governments


Executive Director
Lower Savannah Council of Governments

SCD87

SCD87-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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LOWER SAVANNAH COUNCIL OF GOVERNMENTS
HONORABLE S. J. ROBINSON ET AL.
PAGE 1 OF 1

**RESOLUTION SUPPORTING THE SAVANNAH RIVER SITE'S
 MAJOR PLUTONIUM MISSIONS**

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on the workers, the public or the environment; and

WHEREAS, the Department of Energy has expressed its confidence in the Savannah River Site by designating SRS as the preferred location for MOX fuel fabrication and immobilization; and

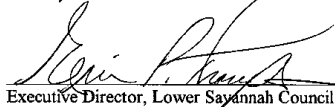
WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as a "plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large complex"; and

WHEREAS, the Lower Savannah River Region strongly supports continued plutonium missions for the Department of Energy's Savannah River Site, including pit disassembly and conversion.

NOW BE IT RESOLVED THAT the Lower Savannah Council of Governments strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its preferred facility for plutonium pit disassembly and conversion.

APPROVED THIS 10TH DAY OF AUGUST 1998, BY THE BOARD OF DIRECTORS OF
 THE LOWER SAVANNAH COUNCIL OF GOVERNMENTS.


 Chairman, Lower Savannah Council of Governments


 Executive Director, Lower Savannah Council of Governments

SCD07

SCD07-1

Alternatives

DOE acknowledges the commentors' support for the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) GREG LOWRY
ADDRESS: 2212 RICHARDS ROAD AUGUSTA, GA. 30906
TELEPHONE: (706) 796 1942
E-MAIL: _____

- DOE SHOULD LOCATE ALL OF THE PLUTONIUM MISSIONS AT SAVANNAH RIVER SITE, INCLUDING THE PIT DISASSEMBLY OPERATIONS.
- SRS HAS THE PEOPLE WITH THE BACKGROUND NEEDED FOR THESE PROJECTS, COMMUNITY SUPPORT, AND AN UNPARALLELED SAFETY RECORD.
- LOCATING ALL THE PLUTONIUM DISPOSITION ACTIVITIES AT SRS WOULD BE MOST EFFECTIVE.

SCD55

SCD55-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

LOWRY, NANCY J.
PAGE 1 OF 1



United States
Department
of Energy

Comment Form

NAME: (Optional) Nancy J. Lowry
ADDRESS: 2212 Richards Road, Augusta, GA 30906
TELEPHONE: (706) 796-1942
E-MAIL: _____

- SRS has the technical expertise needed to safely conduct the plutonium pit disassembly & conversion. SRS' safety record is one of the best in the world - another important consideration. SRS people know how to manage plutonium.*
- SRS has safely managed more varied and complex programs than Pantex.*
- It makes sense to consolidate all the plutonium disposition activities at SRS. The logistics are better than they would be if the pit disassembly operations were located at Pantex. It would be more cost effective as well.*
- DOE would show both technical wisdom and financial responsibility by locating the plutonium pit disassembly operations at SRS.*

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SCD56

SCD56-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Larry Milton
ADDRESS: 242 Napa Dr. Augusta, GA 30909
TELEPHONE: ()
E-MAIL:

Overall an excellent public meeting.

Concerning the EIS report:

why has aqueous processing been left out of
the alternatives being considered. Specifically,
aqueous dissolution of pits directly, versus
the dry process should be more thoroughly
evaluated for the pit disassembly and
conversion option.

Aqueous processing is a proven technology versus
the dry processing technology which is in
development and has not been proven.

Also, use of the existing aqueous processing
facilities at SRS would be very cost
effective versus construction of a new facility.

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SCD94-1

Plutonium Polishing and Aqueous Processing

Use of the F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facilities would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down. DOE presented the SRS Chemical Separation Facilities Multi-Year Plan to Congress in 1997. This plan provides the DOE strategy for the expeditious stabilization of SRS nuclear materials in accordance with DNFSB Recommendation 94-1, and provides for the early stabilization of certain limited quantities of plutonium materials from RFETS. Once this stabilization effort is complete, the canyon would be shut down and D&D activities would begin.

The *Storage and Disposition PEIS* evaluated a homogenous ceramic immobilization facility that used an aqueous plutonium conversion process similar to that used in the SRS canyons. As shown in Section 4.29 of this SPD EIS, this process would require much larger quantities of water and other resources, and generate significantly more waste (between 2 and 191 times more depending on the waste category [see Table 4-224]) than the proposed processes included in this EIS. Based on this information, the aqueous plutonium conversion process was not considered to be reasonable and was eliminated from further study in this EIS.

SCD94

Surplus Plutonium Disposition Draft Environmental Impact Statement
Public Meeting
August 13, 1998
North Augusta Community Center

Comments by Dr. Christopher Noah

Thank you for the opportunity to provide comments on this draft EIS. My comments center on land use and environmental suitability of siting this project at the Savannah River Site. I do not make these comments **only** because I believe SRS is the best place for this project but because I have a background in examining the impacts of large-scale facilities.

In the 1970's I lead a team that planned the future use of the State of Alaska.

Also, for the eight years in Alaska I was an environmental planner, Director of the Council on Science and Technology and Deputy Commissioner of Environmental Conservation. During that time I had the responsibility for determining the environmental suitability for many large-scale projects such as the Trans-Alaska pipeline, a world-class molybdenum mine and one of the largest lead mines in the world.

I am past chair of the Federal Planners Division of the American Planning Association

I have taught NEPA and Environmental Policy courses.

I have been involved in approximately 20 siting studies of potential new missions at SRS.

SCD31

I wrote a comprehensive report on the future of SRS, including new missions and environmental impacts.

Finally, my education includes a masters degree in environmental affairs and a doctorate in environmental policy.

Land Use Qualities of SRS

From a land use perspective SRS is ideal. One of its most important land use attributes is its size. It is 310 square miles - Compared to this project's competitor's 25 square miles. From a land use perspective, this is significant. The size of the site ensures safety, security and enhances project diversity. Also, SRS possesses a complete suite of infrastructure for large scale projects, including: a recently upgraded water system (and access to additional water if needed through the intakes from the Savannah River), a state of the art communications system, newly constructed bridges, more than adequate electricity, upgraded roads, and a state of the art weather center, to name a few.

In 1996, I completed a large study of SRS – examining the potential future uses of SRS in light of the potential downsizing associated with the ending of the Cold War. For the report, I used SRS as a model. My conclusion from the 3-year study was that SRS was the perfect site to use as an example of how multiple, major industrial projects could co-exist. Complementing one another, thus saving money.

SCD31

SCD31-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

1

Environmental Qualities of SRS

From an environmental perspective, SRS ranks high. SRS does more than competently and safely produce nuclear weapons components and clean up the nuclear legacy that won the Cold War. It has a large cadre of scientists who conduct ecosystem studies, environmental impact research, cultural investigations, weather studies, and technological remediation demonstrations.

Over the past decades, SRS staff and management have ensured that site operations and environmental programs exist in a symbiotic relationship. Site operations, endangered and threatened species, the forest ecosystem, and cultural resources have all complemented each other. This is not by accident. SRS management has made a concerted effort to instill the multiple use planning concept at the site. What this means is that at SRS, new projects are not viewed narrowly. They take in the entire spectrum of site activities – studying how new missions and the environment can supplement each other. This approach has salutary side benefits as well. The Savannah Ecology Laboratory, of the University of Georgia, the U. S. Forest Service, and the University of South Carolina, not only conduct extensive research at SRS but profile its environmental and cultural attributes through educational programs. One example is SRS's scout "Camporee" to teach thousands of girl and boy scouts about the environment. Many other regional and national universities work with the site on environmental, cultural and economic impacts – including many HBUCs (Historically Black Universities and Colleges).

So, no matter what you hear from SRS's detractors, SRS is environmentally safe - a productive, diverse set of ecosystems and programs that promote environmental stewardship. In fact, many have called SRS an "environmental island" as the attachment indicates.

NOAH, CHRISTOPHER
PAGE 4 OF 4

Finally, I would like to quote a short passage from the end of my three year report regarding new missions for SRS:

"As this study has detailed, weapons facilities can and should be used for environmental research, biodiversity, environmental technology demonstration, recreation, environmental education and resource management - and *still* produce nuclear materials.

Imagine a weapons site with an industrial core producing nuclear components...The central industrial core would be surrounded by environmental uses which were compatible with the industrial mission.

In some cases the environmental uses would even complement the industrial mission. Examples of these uses would be experimentation with plants that passively remediate contaminated areas, bio-remediation technology demonstration, and materials recycling. The environmental uses would also *complement each other* and in some cases even be symbiotic (i.e., conducting recreation in a natural resource area or simultaneously undertaking research and public education). The environmental uses would draw in the public from surrounding communities, providing environmental and economic opportunities ..."

In conclusion, SRS is environmentally compatible with the Surplus Plutonium Disposition project. Additionally, it has the land use qualities which a professional planner looks for in such a project: a significant buffer, quality infrastructure, support facilities, little environmental impact, no social disruption, and room for expansion.

NSC DISCOVERY CENTER, INC
PHYLLIS H. HENDRY
PAGE 1 OF 1



My name is Phyllis Hendry and I am President of the National Science Center's Fort Discovery in Augusta, Georgia. As a citizen of this community, I am writing this letter to support the Savannah River Site (SRS) and its effort to obtain the third element of the DOE plutonium disposition mission - pit disassembly and conversion.

The Savannah River Site has a proven history in the handling of plutonium. Since SRS has been assigned as the Site of the Mixed Oxide Fuel Fabrication and immobilization missions, it only makes sense that the plutonium disposition mission, including pit disassembly and conversion, be located in the same place. The Pantex facility in Texas that is also being considered for the plutonium mission has never processed plutonium; therefore, there is no plutonium handling infrastructure in place. As a taxpayer, I understand that locating the plutonium mission at SRS can save taxpayers at least \$1.6 billion based on avoided costs of new structures and equipment that would be required at other DOE sites.

On a recent trip to Washington with the Metro Augusta and Aiken Chambers of Commerce and three other area Chambers, we visited with Frederico Pena and he indicated that community support would play a major part in the decision-making process. Several groups from our two-state area have met with the Secretary to express overwhelming support that the Savannah River Site has in this community. The Savannah River Site has a proven record that makes it the logical choice for the plutonium mission.

I appreciate the opportunity to support the Savannah River Site.

Sincerely,

Phyllis H. Hendry

Phyllis Hennecy Hendry
 President
 NSC Discovery Center, Inc.



The National Science Center's
 Fort Discovery

One Seventh Street on the Riverwalk
 Augusta, Georgia 30901

Tel: 706.821.0100 or 800.325.5445
 Fax 706.821.0298

www.nscdiscovery.org

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SCD04

SCD04-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

August 13, 1998

Dear Mr. Nulton
US Department of Energy
Materials Disposition


It has been noted that the concern for severity and frequency of aircraft incidents decreases in the series of EIS documents published by DOE-MD compared to certain earlier studies including the PANTEX EIS. It is noteworthy that LANL studies on the same issue for DOE-DP and others are highly concerned with this issue and in particular with respect to Zone 12 and Zone 4. Zone 4 is where you plan to place the PDCF facility. Zone 12 or Zone 4 is not material since the entire PANTEX site is only 16,000 acres or roughly 5 by 5 miles.

In further support of this puzzling situation, the DNFSB in it's weekly reports has on several occasions highlighted the fact that even DOE and M&H do not fly radiological over-flights of these two zones for fear of the consequences of a helicopter crash. Now their concern is based upon the storage of metal pit parts and HE explosives. They have never had to consider the consequences of plutonium powder processing.

It is well known that the Amarillo area air facilities not only routinely service large commercial aviation aircraft – flights, storage depot, etc.; but, they also service a significant contingent of air force B-1s and tankers.

What has been the basis for your analysis? Does DOE intend to follow the US NRC protocol (NUREG – 0800)? The NUREG – 0800 protocol is the standard official US criteria for nuclear facilities and has been a cornerstone of nuclear regulation for years. If you have deviated from this protocol, please explain the rationale especially in light of the DOE thrust to become NRC regulated and to meet the same criteria.

I submit this letter to you with NUREG – 0800 attached to help in simplifying the process of future conformance to NRC regulations and in the hope of avoiding a major dispersal of PuO₂ over the landscape of a major food processing area of the US.


Blake Seward
Evans, Georgia

Attachment: NUREG-0800 (US Nuclear Regulatory Commission Standard Review Plan, Office of Nuclear Reactor Regulation.)

SCD02

SCD02-1

Facility Accidents

DOE acknowledges the commentor's concern regarding aircraft accidents. Decreases in aircraft crash frequency in this SPD EIS relative to other documents such as the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage with Nuclear Weapon Components* (DOE/EIS-0225, November 1996) are largely due to the smaller effective target area of the pit conversion and MOX facilities as compared with the entirety of Zone 4 or Zone 12. The possibility of plutonium powder processing is indeed new at Pantex, and this EIS addresses this concern in the accident analysis primarily in the higher fraction of material that becomes airborne as a result of the hypothesized accidents. The resulting potential impacts will be considered in the decisionmaking process.

SCD02-2

Facility Accidents

The primary basis for the accident analysis is *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993). The methodology is based on that outlined in *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports* (DOE-STD-3009-94, 1994). In accordance with that standard, radiological releases were analyzed in terms of the specific release phenomenology as documented in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994). *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants* (NUREG-0800, July 1981), is not directly applicable to nonreactor facilities.



United States
Department
of Energy

Comment Form

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I appreciate DOE holding these meetings and willing to listen to the public, elected officials, and concerned citizens. I never was a member of the U.S. Armed Forces and I look back on this with regret. I feel a need to give something back to this nation that has given so much to me. As an employee at SRS for over 17 years I am proud of the fact that SRS was an important factor in the ending of the Cold War. The production of PU at SRS helped bring down the Iron Curtain. I ask DOE to bring all the PU disposition missions to SRS and let us finish what we started.

Thank you
Cameron Sherer

SCD66

SCD66-1

Alternatives

DOE acknowledges the commentator's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Bill Thompson, President and CEO
Sun Trust Bank, Augusta

As a member of the business community in this area, I would like to welcome our visitors from the Department of Energy Headquarters to SRS country.

We are extremely proud of SRS, its contribution to our National Security, its history of unmatched safety and production performance, and the many employees who have worked there and those who work there today. This pride and support extends throughout this area and joins our two states in common interest and objectives.

The Plutonium Disposition Program is important to our Nation and to the world. DOE should be commended for its leadership and progress on this program. SRS and this community support this program and stands ready to accept full responsibility for its successful completion. We are proud that SRS has been selected as the preferred site for the Mixed Oxide Fuel and Immobilization missions of this program. We now focus our attention to the third mission of the program, Plutonium Pit Disassembly and Conversion.

Many of us do not understand the finite technical details of plutonium and other nuclear materials. But, we do understand concepts of infrastructure, experience, expertise, and demonstrated performance in safety and environmental protection. We also understand that to duplicate at Pantex what already exists to support this mission at SRS will cost hundreds of millions of dollars. This unto itself is enough to declare that SRS is preferred over Pantex.

As a taxpayer, it makes clear sense to me to consolidate all of the missions for Plutonium Disposition at SRS. I encourage DOE not to overlook the hundreds of millions of dollars in savings which would be realized through this consolidation. ~~I encourage DOE to go back and review this draft EIS to correct the many cost and logic errors which appear to have been generated in an attempt to level the field between SRS and Pantex. The errors are many and too numerous to delineate here, but once corrected, it will be clear that SRS is the preferred site for Pit Disassembly and Conversion.~~

Consolidation at SRS is the right thing to do for our Nation, this community and the taxpayers.

Thanks you for this opportunity to provide comments on this extremely important program.

SCD20-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. Further, DOE appreciates the support it has received from the local communities surrounding the candidate sites for the proposed facilities. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

WILCOX, ROBERT H.
PAGE 1 OF 2

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 September 11, 1998

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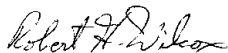
This is in reply to your request for comments on the "Surplus Plutonium Disposition Draft Environmental Impact Statement," dated July 1998.

I have reviewed this document and essentially have no comments, other than to rephrase and reiterate some which I provided before the document was prepared, in my letter to Mr. Bert Stevenson on July 6, 1997:

1. The EIS process, as currently practiced by DOE, remains unduly expensive and time consuming. In my opinion, it goes far beyond the intent of Congress when it enacted the original NEPA. 1
2. DOE's decision in this matter should be driven primarily by considerations of national security. 2
3. DOE and others should most carefully consider the extent to which it would be prudent to concentrate a high percentage of the nation's plutonium at any one site. 3
4. The conversion of as much as possible of the unneeded plutonium into MOX fuel remains the logical and responsible course of action for the Government to take and the sooner the better. 4
5. The SRS should be utilized to the maximum that it makes strategic and economic sense to do so. 5

I urge DOE to get on with this important job as expeditiously as possible.

Sincerely,


 Robert H. Wilcox

MD176

MD176-1

General SPD EIS and NEPA Process

DOE strives to control costs in implementing the NEPA process. This SPD EIS was prepared in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively).

MD176-2

DOE Policy

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of the surplus plutonium in the United States in an environmentally safe and timely manner. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD176-3

DOE Policy

DOE acknowledges the commentor's concern that a high percentage of the nation's plutonium might be concentrated at any one site. As summarized in the *Storage and Disposition PEIS* ROD, the nonproliferation assessment concluded that each of the options under consideration for plutonium disposition could potentially provide high levels of security and safeguards and effective international monitoring for nuclear materials during the disposition process thus mitigating the risk of theft. Accordingly, the proposed DOE surplus plutonium disposition facilities are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the proposed facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance

investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would also be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

MD176-4

MOX Approach

DOE acknowledges the commentor's support for the MOX approach.

The remainder of this comment is addressed in response MD176-2.

MD176-5

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at SRS.

The remainder of this comment is addressed in response MD176-2.

